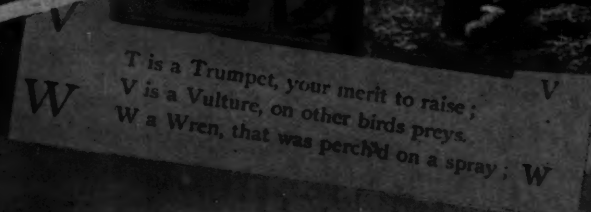
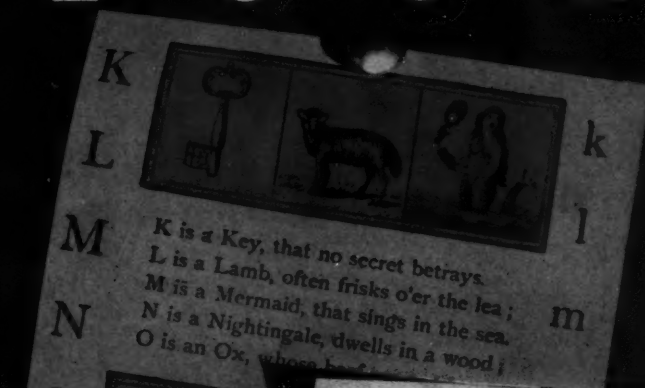


JUNE 1951

ARCHITECTURAL RECORD



BUILDING TYPES STUDY NO. 175

SCHOOLS



millions

of homes

secured

by

Kwikset
LOCKSETS

kwikset
sales and service company

anaheim, california

ARCHITECTURAL RECORD (Vol. 109, No. 6, June, 1951) is published monthly by F. W. Dodge Corp., 10 Ferry Street, Concord, N. H., with editorial and executive offices at 119 W. 40th St., New York 18, N. Y. \$4.50 per year; Foreign, \$6.50.

Entered as second-class matter at the Post Office, Concord, N. H., March 16, 1946, under the Act of March 3, 1879.

7/

SA
Archit
En
Contract

'In
ALFRE

LO

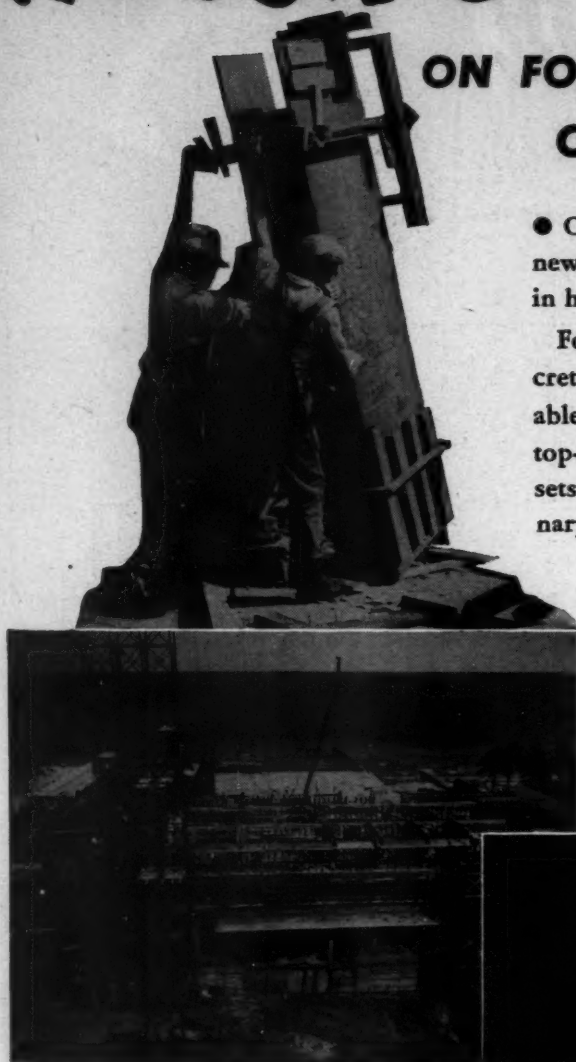
Offices:
CHICAGO
NEW OR

LONE ST
CEMENT

JUNE

'INCOR' SAVES \$15,000

ON FORMS . . . SPEEDS COMPLETION OF MIAMI BEACH HOTEL



● Of fire-safe, concrete-frame construction, Miami Beach's fine, new Sans Souci Hotel illustrates a principle which will come in handy in expediting defense structures of all kinds.

For earlier occupancy, this well-handled project was concreted throughout with 'INCOR' 24-HOUR CEMENT. Dependable 'Incor' high early strength made it possible to maintain top-speed schedules with a single set of forms—saving two extra sets which would have been needed for equal speed with ordinary portland cement.

Forms cost plenty, these days, and you will find that 'Incor' savings run into real money—on this job, a tidy saving of \$15,000.*

Well worth considering, for new factories, additions, warehouses and the like, needed in a hurry to expedite the defense program.

*Reg. U. S. Pat. Off.

SANS SOUCI HOTEL, Miami Beach

Architect: **ROY F. FRANCE, Miami Beach**

Engineers: **RILEY & ROSS, Miami**

Contractor: **TAYLOR CONSTRUCTION COMPANY, Miami**

'Incor' 24-Hour Cement supplied by:
ALFRED DESTIN COMPANY, Miami Beach



LONE STAR CEMENT CORPORATION

Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON
CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • KANSAS CITY, MO.
NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA
RICHMOND • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 17 MODERN MILLS, 125,000,000 SACKS ANNUAL CAPACITY



LONE STAR CEMENTS COVER THE ENTIRE CONSTRUCTION FIELD

Two Ways to Please Your Clients

When you specify NuTone Door Chimes and NuTone Ventilating Fans, you add greater value and comfort to your clients' homes. For the homes you are planning now, specify "sweet fresh air" in every room — and a "sweet musical welcome" at the front door.

"Sweet Music" at the front door...

HOMES IN TUNE WITH THE TIMES . . . HAVE NUTONE DOOR CHIMES

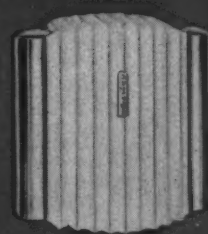
Enhance the appearance of your homes . . . win clients' praise. People hate nerve-wracking bells and buzzers. Please them by including NuTone Door Chimes in your plans and specifications. Priced from \$3.95 to \$79.95 list.



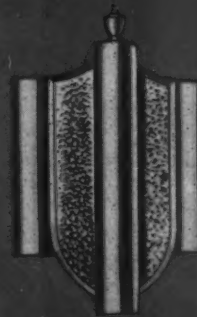
NU TONE
TRADE MARK



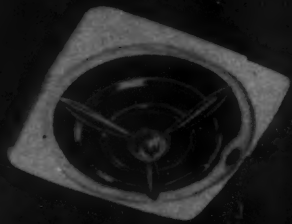
K-16 COMMANDER
Ivory or White



K-18 "REPEAT-A-TONE"
Repeating Chord



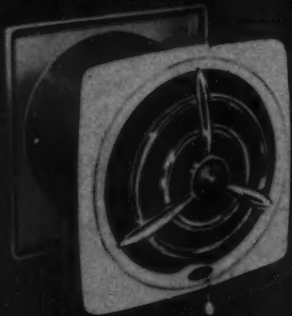
K-20 MT. VERNON
Hammered Brass



NUTONE



Fresh Air in every room...



**IMPROVE YOUR HOME PLANS . . .
WITH NUTONE VENTILATING FANS**

Specify NuTone Ventilating Fans for kitchen, bathroom, recreation room, laundry. Choose from 10 NuTone styles — a size and model for every room. Give homeowners "sweet fresh air" where they want it, when they want it . . . all year 'round. Styled right. Top performance. Dependable. Priced from \$24.95 to \$38.40 list.



16-PAGE BOOK NOW READY

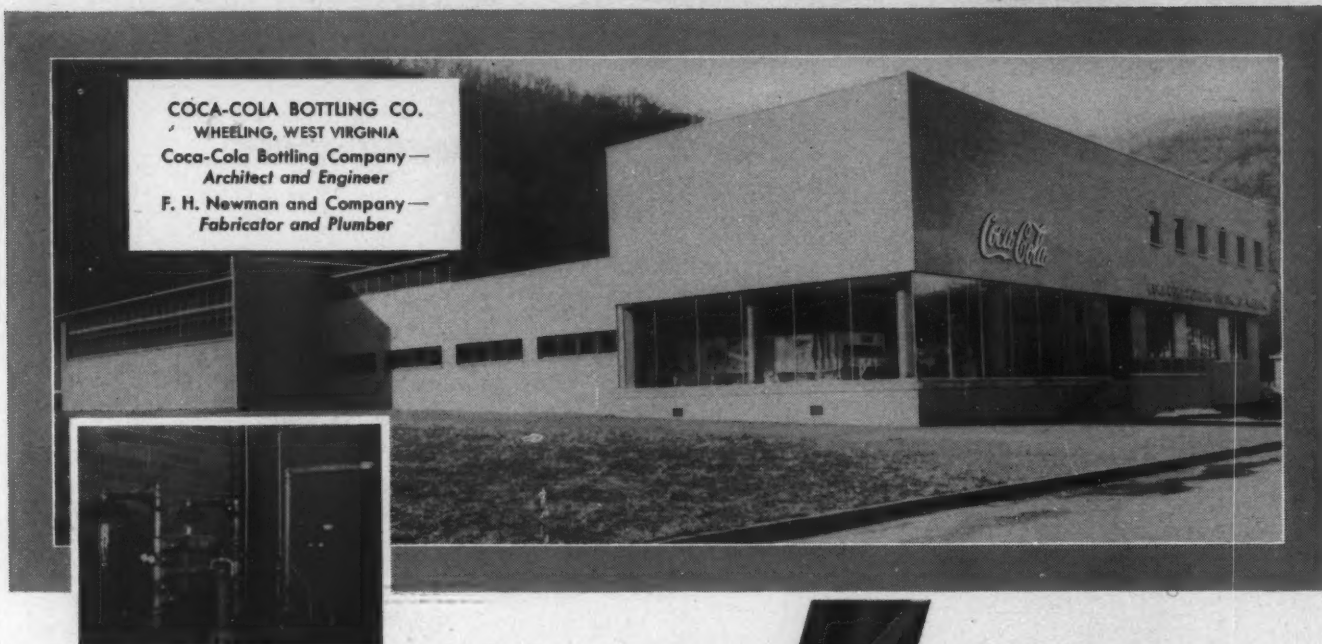
Write for new data book on how to solve ventilating problems for every room of the house. Simply mail your letterhead to us and say, "Send 16-page Ventilating Book to me." Of course, there is no charge. Write

NuTone, Inc., Dept. AR-5, Madison & Red Bank Roads, Cincinnati 27, Ohio.

NUTONE
Door Chimes
and Ventilating Fans

NATIONAL HEADQUARTERS . . . Cincinnati 27, Ohio
EASTERN SALES . . . 200 Fifth Ave., New York 10
MIDWEST SALES . . . Merchandise Mart, Chicago 54
WESTERN SALES . . . 919 E. 31st St., Los Angeles 11
SOUTHWEST SALES . . . 1118 Jackson St., Dallas 2

This Plant "bottles-up" Corrosion in COLD WATER LINES with BYERS WROUGHT IRON PIPE



Coca-Cola Bottling Co.
WHEELING, WEST VIRGINIA
Coca-Cola Bottling Company—
Architect and Engineer
F. H. Newman and Company—
Fabricator and Plumber

Combining the pleasing architectural treatment and the sound mechanical design that invariably trade-marks these structures, this newest Coca-Cola Bottling Company plant utilizes genuine wrought iron pipe in all cold water lines to minimize maintenance and assure a constant supply of clear, uncontaminated water. Byers Wrought Iron pipe, in 3, 4, and 6-inch sizes, was used. This is the 30th Coca-Cola Bottling plant in which genuine wrought iron has been used to combat corrosion.

Byers Wrought Iron pipe has a proven record of long, dependable life in services where corrosive attack is a threat to durability. The most impressive histories are provided by old buildings where many original genuine wrought iron plumbing and heating lines are still serving after periods ranging up to half a century.

When pipe specifications are written, careful thought should be given to the consequences of failure. The expense of installing is material plus the pipe fitter's labor. The cost of repairing is material cost plus the labor of the pipe fitter, mason, plasterer, carpenter, painter—as many as five crafts. The wisdom and economy of using a durable pipe is self-evident. And Byers Wrought Iron pipe answers the need.

Our booklet, "THE ABC's OF WROUGHT IRON," tells how genuine wrought iron is made, where it is successfully serving, why it lasts longer. Ask for a copy.

A.M. Byers Company, Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, San Francisco. Export Division: New York, N. Y.



Why Genuine Wrought Iron Lasts

This notch-fracture test specimen illustrates the unusual fibrous structure of genuine wrought iron—which is responsible for the unusual corrosion resistance of the material. Tiny threads of glass-like silicate slag, distributed through the body of high-purity iron, halt and disperse corrosive attack, and discourage pitting and penetration. They also anchor the initial protective scale, which shields the underlying metal.

BYERS

CORROSION COSTS YOU MORE THAN WROUGHT IRON
WROUGHT IRON
TUBULAR AND HOT ROLLED PRODUCTS
ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

ARCHITECTURAL RECORD



Copyright 1951 by F. W. DODGE CORPORATION, with all rights reserved • Publishing Director, Magazine Division, H. Judd Payne • Business Manager, Robert F. Marshall • **EDITORS:** Managing Editor, Emerson Goble; Senior Associate Editor, Frank G. Lopez, A.I.A.; Associate Editor, Florence A. van Wyck; Associate Editor (Engineering), Robert E. Fischer; Western Editor, Elisabeth Kendall Thompson; Assistant Editor, Herbert L. Smith, Jr., A.I.A.; Assistant Editor (News), Jeanne M. Davern; Contributing Editors, Ernest Mickel (Washington), Frederic A. Pawley, John Caulfield Smith, M.R.A.I.C. (Canada); Editorial Assistants, Dorothy C. Jackson, Jeanne G. Whitbeck • **DESIGN:** Consultant, M. Peter Plening; Director, Frances Torbert; Assistant, Elaine Sehnert; Drafting, Sigman-Ward • **CONSULTANTS:** Industry Relations Consultant, Thomas S. Holden; Statistical Consultant, Clyde Shute; Field Research Consultant, Clifford Dunnells, Jr.; Public Relations Consultant, Samuel C. Pace.

Architectural Record (combined with American Architect and Architectural) is published monthly by F. W. Dodge Corporation, 10 Ferry St., Concord, N. H., with Editorial and Executive Offices at 119 West 40th Street, New York, N. Y. Western Editorial Office, 2813 Channing Way, Berkeley, Calif. Thomas S. Holden, Pres.; Howard J. Barringer, Vice-Pres. and Treas.; Irving W. Hadsell, Vice-Pres.; Chauncey L. Williams, Vice-Pres.; Sanford D. Stockton, Jr., Secy.; Walter F. De Saix, Asst. Treas.; Edwin H. Freed, Asst. Treas.; Irving B. Satin, Asst. Treas. Member Audit Bureau of Circulation and Associated Business Papers Inc. Architectural Record is indexed in Reader's Guide, Art Index, Industrial Arts Index and Engineering Index. Subscription rates: United States and Possessions, Canada, Cuba, Mexico, Central and South America, and Spain, \$4.50 the year, \$7.50 for two years, \$9 for three years; elsewhere, \$6.50 the year, \$11.50 for two years, \$15 for three years. Single copy \$2. Circulation Manager: Marshall T. Ginn. Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage. Other Dodge Services: Real Estate Record & Builders' Guide, Sweet's Files, Home Owners' Catalog, Dodge Reports & Dodge Statistical Research Service.

COVER:

Vista Elementary School, Vista Unified School District, California. Maynard Lyndon, Architect. Merge Studio photo. School yard photo, Underwood & Underwood News Service

Vol. 109 • No. 6

June 1951

THE RECORD REPORTS	11
News from Washington. By Ernest Mickel.....	17
News from Canada. By John Caulfield Smith.....	18
Construction Cost Indexes.....	28
REQUIRED READING	30
BUILDING TYPES STUDY NO. 175 . . . SCHOOLS AND SCHOOL PRACTICE	
SCHOOLS AND SCHOOL PRACTICE	117
ECONOMICS + PHILOSOPHY + AVAILABLE MATERIALS AND EQUIPMENT + DESIGN = MODERN SCHOOLS	118
ELEMENTARY SCHOOL PROPOSED FOR BREWER, MAINE	119
Alonzo J. Harriman, Inc., Architects-Engineers	
SUNNYSIDE SCHOOL, MARICOPA COUNTY, ARIZONA	120
Ralph Haver, Architect	
ELEMENTARY SCHOOL, KINGSTON, MASSACHUSETTS	122
Walter F. Bogner and Carleton R. Richmond, Jr., Architects	
ELEMENTARY SCHOOL, VISTA UNIFIED SCHOOL DISTRICT, CALIFORNIA	128
Maynard Lyndon, Architect	
MINERAL SPRINGS HIGH AND ELEMENTARY SCHOOLS	134
Forsyth County, North Carolina. Macklin & Stinson, Architects and Engineers	
TWIN ELEMENTARY SCHOOLS IN YAKIMA, WASH.	140
John W. Maloney and John H. Whitney, Architects	
BARRINGTON CONSOLIDATED HIGH SCHOOL	146
Barrington, Ill. Perkins & Will, Architects-Engineers	
VETERANS' ADMINISTRATION RESEARCH HOSPITAL	151
Chicago, Ill. Schmidt, Garden & Erikson, Architects and Engineers	
FESTIVAL OF BRITAIN	158
Southbank Exhibition, London	
HOLIDAY HOUSE	162
Quogue, New York. George Nelson, Architect	
LIVABILITY ON A SMALL, HILLY LOT	168
Residence for Mr. and Mrs. Robert P. Lilienthal, San Francisco. Worley K. Wong, Architect, and John Carden Campbell	
CALEDONIAN RECORD PUBLISHING CO., INC.	172
St. Johnsbury, Vermont. Whittier & Goodrich, Architects	
VERMONT ELECTRIC COOPERATIVE, INC.	175
Johnson, Vt. Whittier & Goodrich, Architects	
APARTMENTS DESIGNED FOR SINGLE PEOPLE	178
Brentwood Garden Apartments, Los Angeles, Calif. Chalfant Head, Architect and Owner	
ARCHITECTURAL ENGINEERING	
TECHNICAL NEWS AND RESEARCH	
N. Y. STATE BUILDING CODE COMMISSION: AIMS AND ACCOMPLISHMENTS	184
By William Lescaze	
STEEL SAVED IN LIGHTWEIGHT BUILDING	188
By J. A. Murlin	
HEATING SYSTEM LOWERS SCHOOL COSTS	191
Hillsborough School, Hillsborough Township, N. J. Jay C. Van Nuy, Architect	
PRODUCTS . . . For Better Building	195
LITERATURE FOR THE OFFICE	196
TIME-SAVER STANDARDS	199
Hardware — 24, 25, 26: Sliding Doors. By Seymour Howard	
SEMI-ANNUAL INDEX	335
INDEX TO ADVERTISING	6

INDEX TO ADVERTISING

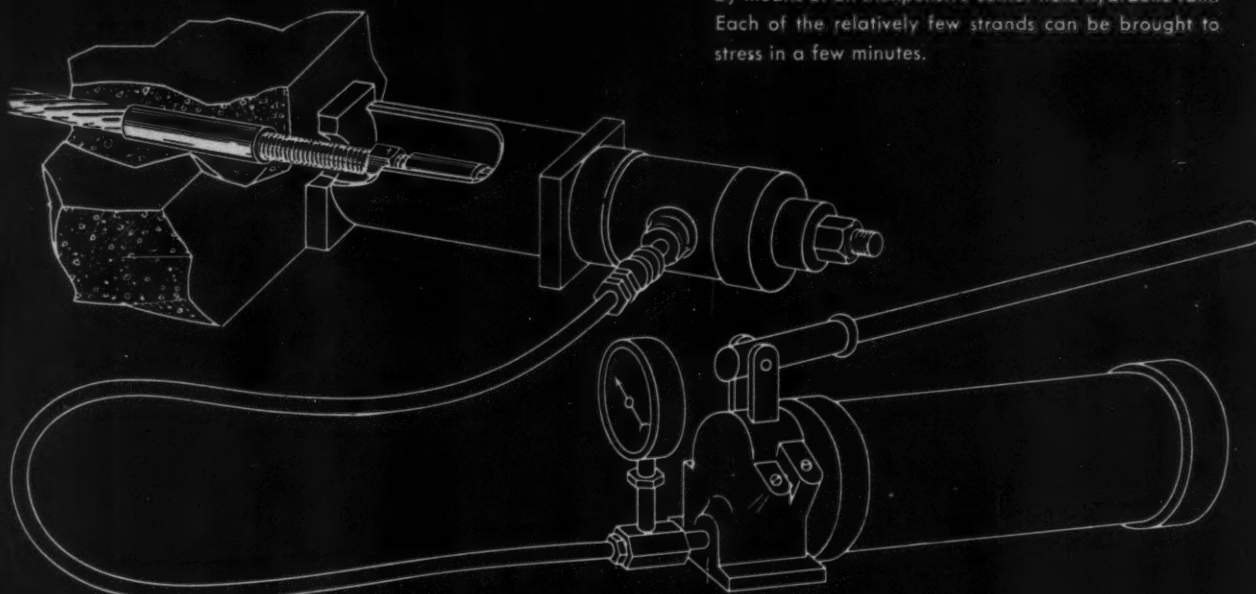
ab Adam, Frank Electric Co.	45
ab Aerofin Corporation	316
ab Affiliated Gas Equipment, Inc.	98
ab Air Devices, Inc.	21
ab Alan Wood Steel Co.	288
a Alberene Stone Corp.	78
a Allen, W. D. Manufacturing Co.	58
ae Allied Chemical & Dye Corp.	52
a Aloe, A. S. Co.	318
a Alumiline Corporation	316
a Aluminum Company of America	8-9
a American Air Filter Company, Inc.	221
a American Bleached Shellac Manufacturers Assn.	331
ae American Blower Corporation	94
ae American Hardware Corporation	27
a American-Olean Tile Co.	107
a American Sealing Company	329
ab American Telephone & Telegraph Co.	311
ab American Welding & Mfg. Co.	274
a Amplex Corporation	234
a Anemostat Corp. of America	322
ab Armstrong Cork Company	243
ab Art Metal Company	303
ab Associated Plywood Mills, Inc.	39
ae Barber-Colman Company	279-326
ab Barrett Division	52
ab Bell Telephone System	311
ab Bethlehem Steel Company	48-259
ab Bigelow Rugs & Carpets	38
ab Bille Company	320
Books	325-332
a Bradley Washfountain Co.	206
a Brasco Manufacturing Co.	115
ab Breitert, G. C. Co.	304
ab Briggs Manufacturing Co.	44
ab Brown Company	66
ab Brown Products Company	316
ab Bruce, E. L. Co.	310
a Bryant Electric Company	36
ab Bryant Heater Division	98
a Bulldog Electric Products Co.	231
a Bundy Tubing Company	225
a Burnham Corporation	302
ae Burt Manufacturing Co.	244
a Byers, A.M. Company	4
C-O-Two Fire Equipment Co.	19
ab Cabot, Samuel, Inc.	286
ab Cambridge Tile Mfg. Co.	93
ab Cast Iron Soil Pipe Institute	307
ab Cece Steel Products Corp.	204-205
ab Celotex Corporation	84
a Century Lighting	266
a Chase Brass & Copper	41
a Chicago Hardware Foundry Co.	304
a Claridge Products, Inc.	306
a Cleaver-Brooks Company	73
a Cleveland Hotel	290
a Colonial Electric Products, Inc.	298
a Committee on Steel Pipe Research	102
a Concrete Reinforcing Steel Institute	301
a Congoleum-Nairn, Inc.	252-253
a Connor, W. B. Engineering Corp.	300
a Corning Glass Works	72
a Coxhead, Ralph C. Corp.	330
ae Coyne & Delany Co.	106
h Crane Co.	90
ab Crawford Door Company	116
a Crucible Steel Co. of America	213
ab Cuprinol Division	333
a Curtis Lighting, Inc.	100-101
a Cutler Mail Chute Co.	328
ab Darworth, Inc.	333
a Dixon, Joseph Crucible Co.	284
a Dodge, F. W. Corporation	272-273
a Drive Corporation	306-323
a Du Pont, E. I., de Nemours & Co.	42-43
a Duriron Company, Inc.	256
Eastman Kodak Company	103
Edwards Co., Inc.	111
Electric Storage Battery Co.	70
a Ellison Bronze Co., Inc.	92
a Employment Opportunities	306
a Erie Enameling Company	329
Faber, A. W.,-Castell Pencil Co.	290
a Fairbanks Morse & Co.	326
ae Federal Cement Tile Company	304
a Federal Seaboard Terra Cotta Corp.	320
a Fenestra Building Products	96-97
a Fiske, J. W., Iron Works	320
a Fitzgibbon Boiler Company	198
ab Flinnite Company	71
ab Fromant Rubber Company	209
ab Frick Co.	324
ab Frigidaire Division	271
ab Gate City Sash & Door Co.	327
ab General Electric Co., Air Conditioning	56
ab General Electric Co., Home Bureau	50-51
ab General Electric Co., Lighting	247
ab General Electric Co., Wiring	10
ab General Motors Co.	271
a General Portland Cement Co.	312
a Globe Automatic Sprinkler Co.	222
ae Globe Holst Company	24
a Goodrich, B. F., Flooring Division	230
a Governor Corporation	214
a Grange Steel Products Co.	228

ab Grant Pulley & Hardware Co.	284
ab Great Lakes Steel Corporation	308
ae Grinnell Company, Inc.	64
Guth, Edwin F. Company	82-83
Haerel, W. J., & Co.	229
a Hager, C. & Sons, Hinge Mfg. Co.	40
ab Haskell Manufacturing Corp.	85
ae Hauserman, E. F., Company	287
a Haws Drinking Faucet Co.	330
a Haynes Products Co.	318
a Hilmyard Chemical Co.	286
ab Homasote Company	219-253
Home Owners' Catalogs	272-273
a Hood Rubber Co.	230
a Hope's Windows, Inc.	76
a Horn, A. C., Company	65
a Hotel Cleveland	290
a House & Garden	294
ab Hunter Fan & Ventilating Co., Inc.	216
a Huntington Laboratories, Inc.	26
ab Ilg Electric Ventilating Co.	61
a Imperial Brass Mfg. Co.	16
Infra Insulation, Inc.	15
ae Inland Steel Company	239
ab Inland Steel Products Company	200
ab Insulte Division	75
a International Business Machines Corp.	321
International Nickel Company, Inc.	313
a Jackson & Church Co.	3rd Cover
a Jamestown Metal Corp.	302
Jenkins Bros.	63
ae Johns-Manville	46
ae Josam Manufacturing	328
a Just Manufacturing Co.	314
ab Kayle Division	81
a Kennecott Copper Corp.	41
ab Kenite, Inc.	89
a Kewanee Mfg. Co.	248
Kinetic Chemicals Division	42-43
a Kohler Co.	265
ae Koppers Company, Inc.	298
ab Kwitset Sales and Service Company	2nd Cover
a LCN Closers, Inc.	237
ab Libbey-Owens-Ford Glass Co.	285
ab Lincoln Electric Co.	281
a Litecontrol Corporation	88
a Lone Star Cement Corp.	1
a Loria Iron Works	322
ab Louisville Cement Company, Inc.	95
ab Ludman Corporation	245
a Ludewici-Caledon Company	276
ae Macomber, Incorporated	261
ae Mahon, R. C., Company	31-227
a Maple Flooring Manufacturers Assoc.	299
a Marble Institute of America, Inc.	300
ab Mash Wall Products, Inc.	60
a Masland Duralath Co.	47
a Medart, Fred Products, Inc.	99
ab Mengel Company	77
a Michaels Art Bronze Co., Inc.	264
a Midgel Lumber Co.	326
a Miller Company	54
ae Mills Company	33
ab Minnesota & Ontario Paper Co.	75
a Minwax Co., Inc.	288
ae Mississippi Glass Company	257
a Modine Manufacturing Co.	309
a Mohawk Carpet Mills, Inc.	289
a Monroe Company	296
ae Moore, P. O., Inc.	308
a Morrison Steel Products, Inc.	332
ab Mosaic Tile Company	34-35
ab Mueller Brass Co.	59
a Nalcor Store Fronts	324
a National Clay Pipe Manufacturers, Inc.	291
ae National Electric Products Corp.	104-105
a National Gypsum Company	249
a National Radiator Products Co.	53
a National Radiator Company	330
ab National Steel Corporation	208
a National Terrazzo & Mosaic Assoc., Inc.	280
a Natural Slate Blackboard Company	308
a Nelson Harman Division	221
a Neo-Ray Products, Inc.	297
ae Nesbitt, John J., Inc.	86-87
a Niagara Blower Company	314
ae Norton Company	292
a Nova Sales Co.	255
ae Nutone, Inc.	2-3
a Ohio Can & Crown Co.	114
a Otis Elevator Company	202
ab Owens-Illinois Glass Company	81

ab Paine Lumber Co., Ltd.	74
a Parkwood Corporation	327
a Paulding, John I., Inc.	110
a Perma Products Company	300
ab Pittsburgh Plate Glass Co.	232-233-334
a Pittsburgh Reflector Co.	49
ab Pittsburgh Steel Products Company	215
ae Powder Power Tool Corp.	242
a Powers Regulator Co.	223
Preferred Utilities Mfg. Corp.	328
Radio Corporation of America	262
ae Ramser Fasteners, Inc.	236
ae Raynor Mfg. Co.	310
a Republic Steel Corporation	295-305
ab Reverse Copper & Brass, Inc.	267
ab Reynolds Metals Company	32-55-340
ae Richards-Wilcox Mfg. Co.	210
a Richmond Radiator Co.	55
a Rilco-Laminated Products, Inc.	282
a Roberts Co.	235
ae Robertson, H. H. Co.	263
Roebbling's, John A., Sons Co.	7
ab Roddis Plywood Corporation	68
ae Rohm & Haas Company	67
ab Rolscreen Company	258
a Rotary Lift Co.	292
a Rowles, E. W. A., Company	298
ab Russell, F. C. Company	37
Russell & Erwin Division	27
ae Rust-Oleum Corporation	217
Samson Cordage Works	322
a Sarcoterm Controls, Inc.	207
a Schieber Manufacturing Co.	251
ae Security Fire Door Co.	22
ae Serviced Products Corp.	308
ab Shepard Elevator Company	296
ab Siskraff Co.	302
Sjostrom, John E., Company	331
ae Sloan Valve Co.	4th Cover
Soss Manufacturing Company	226
a Speakman Company	108
ab Standard Dry Wall Products	275
a Standard Electric Time Products	212
ae Stark Ceramics, Inc.	197
a Steel & Tube Division	305
ab Stran-Steel Division	208
a Structural Slate Company	308
Struthers Wells	218
Superior Electric Co.	220
a Symons Engineering Co.	110
ab Tile-Tex Division	71
Timber Engineering Company	20
ae Timber Structures, Inc.	333
a Titus Mfg. Corp.	318
ab Titusville Iron Works Company	218
ab Trade-Wind Motors, Inc.	25
ab Trane Company	240-241
a Tremco Mfg. Co.	314
a Trinity Portland Cement Division	312
ae Trumbull Electric Mfg. Co.	23
a Tuttle & Bailey, Inc.	69
ae United States Air Conditioning Corp.	269
ab United States Plywood Corp.	62
a United States Quarry Tile Co.	254
ae United States Rubber Company	278
ae United States Steel Corp. Subsidiaries	277
a Universal Atlas Cement Co.	277
a Universal Bleacher Company	312
a Upco Co.	324
a Uvalde Rock Asphalt Co.	260
Van Packer Corporation	250
a Vulcan Radiator Company	310
ae Wakefield, F. W., Brass Co.	317
Wallace, William Company	224
a Waylite Co.	270
a Wayne Iron Works	114
a Weather-Vane Corporation	57
ae Webster, Warren & Co.	112-113
West Coast Lumbermen's Association	109
Western Pine Association	296
ab Westinghouse Electric Corp.—Elec. Appli-	91
ae Westinghouse Electric Corp.—Elevator Div.	219
Westinghouse Electric Corp.—Lighting	79
Westinghouse Electric Corp.—Refrigeration	283
ae Westinghouse Electric Corp.—Sturtevant	211
Div.	211
Willay, John & Sons, Inc.	246
Will-Burt Company	312
Wood Window Program	293
a Worthington Pump & Machinery Corp.	80
a Wright Manufacturing Co.	238
ae York Corporation	315
York-Shibley, Inc.	321
ab Zenolite Company	268

NEW YORK—H. Judd Payne, Publishing Director; Robert F. Marshall, Business Manager; Tom Treadwell, Advertising Mgr.; Benton B. Orwig, Creative Service Manager; M. A. Murphy, Advertising Production Manager, 119 West 40th Street, BOSTON—Harry M. Horn, Jr., 855 Park Square Bldg.; CHICAGO—C. B. Riemersma, Robert T. Franden, John M. Cogan, 700 Merchandise Mart; CLEVELAND—John C. Jackson, David K. Bortz, 321 Hanna Bldg.; DALLAS—Joe Sanders, 2909 Maple Ave.; DENVER—Allan Clevenger, 1217 Welton St.; LOS ANGELES—Bob Wettstein, 672 South Lafayette Park Place; PHILADELPHIA—Tom Treadwell, 1321 Arch St.; PORTLAND—Bob Wettstein, 907 Terminal Sales Bldg.; SAN FRANCISCO—Bob Wettstein, Howard Bldg., 209 Post St.

PRESTRESSED CONCRETE?...



Roebling Prestressed-Concrete Strands are tensioned by means of an inexpensive center hole hydraulic ram. Each of the relatively few strands can be brought to stress in a few minutes.

AT THE COST OF STEEL?

High labor costs eliminated by Roebling Americanized System

UNTIL RECENTLY, wire for prestressing was cut to length and threaded into cables by iron workers at the building site... a slow, unwieldy operation involving exorbitant labor costs.

All such bother and expense are now eliminated by the Roebling Americanized Prestressed Concrete System. By this system, Roebling furnishes complete factory-made prestretched strand assemblies. They are formed of hot galvanized acid steel prestressed-concrete wire... the only wire that is suitable for this type construction. Attached to these strands are specially designed end

terminals ready for the tensioning job, done with an inexpensive jack in a matter of minutes.

The Roebling Americanized System makes Prestressed Concrete even more economical in comparison with other designs. In addition, it removes the guesswork from prestressed concrete design. Materials are proof-loaded. Contact Roebling for full technical data and engineering assistance in planning applications for this extraordinary material. John A. Roebling's Sons Company, Bridge Division, Trenton 2, New Jersey.

One of the specially designed Roebling Strand fittings that is essential to the Americanized Prestressed Concrete System.

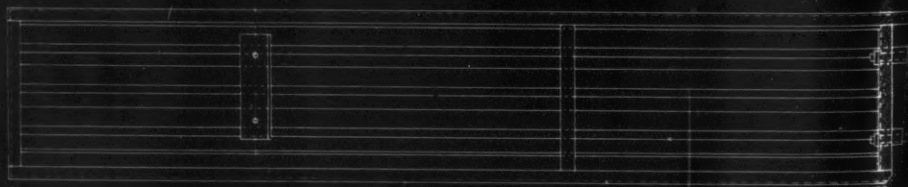


ROEBLING

SOLAR SHADING TAKES THE



Entrance lobby. Maintenance-free Alcoa Aluminum used in doors, railing, trim and windows.



Detail, vertical solar shade.

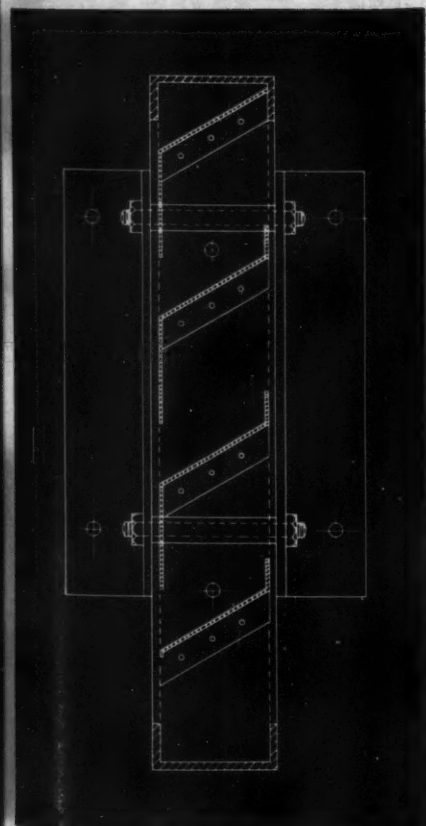
KEES THE HEAT OFF OPERATING COSTS



The architects had both the needs of the patients and the problems of the treasurer in mind when they designed this hospital. Plenty of cheerful, healing light comes into every room, but hot sun-rays, that boost air-conditioning costs, stay out. Blocked by clean looking, cleanly designed aluminum solar shades.

The architects estimate that solar shades reduced the original cost of air-conditioning equipment by 30% and will cut its operating costs by 15%. And being made of maintenance-free Alcoa Aluminum, the fixed shading will never need painting, will never stain the light, bright exterior of the building.

Almost daily, architects are finding more ways to use aluminum's resistance to corrosion and stain; its reflectivity, conductivity and economy, to make buildings work better and cost less. Although rearmament needs now limit the civilian supply of aluminum, Alcoa is continuing to work with designers in developing new aluminum applications. For information on any application of aluminum and on availability and government regulations pertaining to aluminum uses, call your local Alcoa sales office or write ALUMINUM COMPANY OF AMERICA, 1888F Gulf Building, Pittsburgh 19, Pa.



Cross section, vertical solar shade.

ALCOA

FIRST IN



ALUMINUM



G-E Fiberduct raceways provide single-, double-, or triple-duct service—can be laid in a variety of patterns to concentrate distribution over any portion of floor.



Large G-E Fiberduct raceways provide ample facilities for the heaviest electrical demands—permit installation of outlets right where they're needed in a few minutes.

Provide Complete Underfloor Distribution with nonmetallic G-E Fiberduct Raceways

Plan now to avoid materials problems and still provide ample underfloor distribution with nonmetallic G-E Fiberduct raceways.

G-E Fiberduct raceways offer the kind of over-all distribution that today's expanding electrical requirements demand. They put power where it's needed when new electrical equipment and changing floor layouts call for flexible distribution.

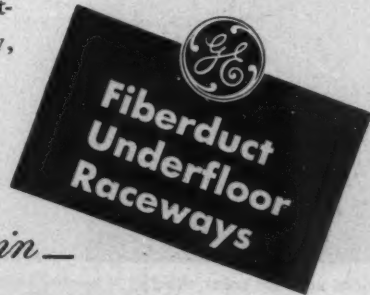
Fiberduct raceways make it easy to install additional outlets at all times. An electrician cuts a hole through the floor

and the duct, pulls wires through and installs the outlet. New distribution is provided by merely pulling additional wires through the raceway. There's no interruption of building facilities . . . no annoyance to building tenants!

Complete specifications and installation data are available from your General Electric Construction Materials distributor. For a free copy of the G-E Fiberduct Data Manual, write to Section C57-65, Construction Materials Department, General Electric Company, Bridgeport 2, Connecticut.



To add an outlet, simply make a small opening in the floor over the raceway, fish wires through, connect outlet.



You can put your confidence in—
GENERAL  ELECTRIC

THE RECORD REPORTS

83RD CONVENTION SPOTLIGHTS NEW ACTIVITIES FOR ARCHITECTS

*Burchard and Hudnut Give Record Assembly Its Theme;
Glenn Stanton Succeeds Ralph Walker as President;
National Defense Sessions Urge Government Speedup
On Civil Defense, Hit Policies on Building Control*

RECORD ATTENDANCE and the pertinent program of the 83rd convention of the American Institute of Architects showed clearly the new significance of the annual meetings. Delegates and members (plus guests nearly 2000) at Chicago May 8-11 had a very intimate concern — shared by all members of the profession they represented — with the special problems presented by the national defense program.

But the big news of the convention was in the speeches by Dean John E. Burchard of the new School of Humanities and Social Studies at the Massachusetts Institute of Technology and Dean Joseph Hudnut of Harvard's Graduate School of Design.

"Humanity, Our Client"

Dean Burchard's keynote address was entitled "Humanity, Our Client." It was a very long address, as broad in concept as its title suggests, and moved its audience to a realization that design stands at a significant historical point.

It began with an exposition of the inter-relationship of all the creative activities of men and went on to a review of recent history which followed the development of art and architecture through the changing contexts of the last fifty years. Dean Burchard detailed some of the lessons he sees in a right study of the past; and finally, he discussed some basic problems which challenge the architect in the service of humanity.

"In my view," Dean Burchard said, "if contemporary architecture turns out in the long run to have been one of the great cultural achievements of man we shall then regard engineering architecture as the primitive stage and functional architecture as the transitional stage. For one more ingredient needs to be added. . . . The ingredient as yet only partially supplied is humanism."

Examining the history of this century in the light of his own conviction of the essential unity of culture — inseparable from the ethics or politics of the time — Dean Burchard found equal scandal in



The A.I.A.'s 33rd president:
Glenn Stanton, Portland, Ore.

the narrow reading of history condemned by the leaders of the new movement and in its abandonment by their less perceptive followers.

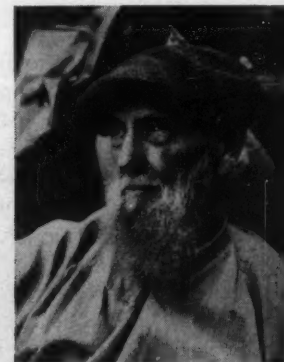
Dean Burchard called on "both sides to the earlier conflict" to "realize that the victory has been won, who has won it, and that the time has come to engage in the much less exciting task of consolidating the gains."

"Design for Living"

Dean Hudnut, discussing form as an essential quality in "the design for living we call civilization," suggested that in architecture it might provide the mode



Dean Hudnut and Dean Burchard are photographed between sessions; and (right) Henry Saylor is welcomed to Fellowship in the Institute by Ralph Walker



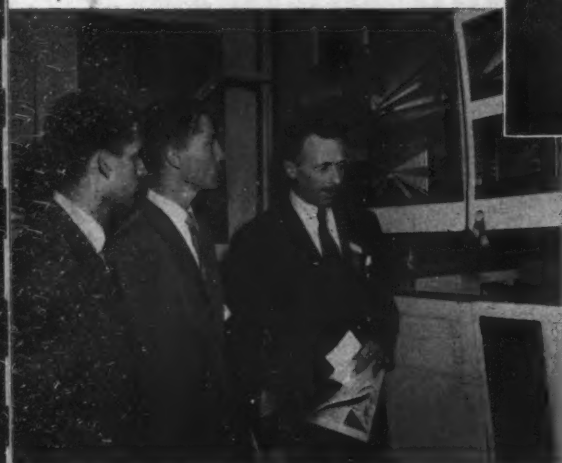
Bernard Ralph Maybeck, at 89
the A.I.A. Gold Medal winner

A.I.A. CONVENTION

Below: Ralph Walker presents Edward C. Kemper Award to Marshall Shaffer, busy architect of U. S. Public Health Service. Right: A.I.A. Journal Editor Henry Saylor, New York Regional Director Arthur Holden and Past President Douglas Orr. Far right: Alexander Robinson III, Cleveland, and the new A.I.A. second vice president, Norman J. Schlossman, Chicago



Left: Richard M. Bennett of Chicago and John Hargrave, Cincinnati. Below, Dean Hudnut and Emerson Goble



Left: two students of architecture, William B. Morris of Cornell and William Potts of the University of Florida, look over some of the exhibits of Honor Awards in Architecture with Pietro Belluschi, M.I.T. dean of architecture and planning



of conciliation for science and art.

"Form," he said, "does not require the negation of functional shape or of rational order but only the submission of these to that nobler artistry which, above the earthen air of our necessities, creates for architecture and for men the design by which they live."

Together, the two statements, and the strongly affirmative response they evoked from both sides of the ideological fence, appeared to constitute recognition of a coming trend and to offer a beginning for a new unification of goals within the profession.

New Officers Take Over

Glenn Stanton of Portland, Ore., became the Institute's 33rd president in an election notable for its tranquillity. Mr. Stanton, A.I.A. first vice president during the two terms of his predecessor, Ralph Walker of New York, was unopposed for the top office.

Also elected without opposition were Kenneth E. Wischmeyer of St. Louis, who moved up to the post of first vice president after two years as second vice president; and Maurice J. Sullivan of Houston, Tex., as treasurer.

In the contests, Norman J. Schloss-

man of Chicago was elected second vice president and Clair W. Ditchy of Detroit was reelected secretary.

Two of the four regional directorships which fell vacant this year were uncontested. G. Thomas Harmon III, Columbia, S. C., became director for the South Atlantic District (Alabama, Florida, Georgia, North Carolina, South Carolina and Virginia) and Edward Lawrence Wilson, Fort Worth, Tex., was elected director of the Texas District (created last year to make the state of Texas a district separate from the Gulf States District).



Above: Robert Little of Miami Beach and Joseph Murphy, architecture dean at Washington U., St. Louis



Above: Leonard Wolf of the Iowa State College Architecture Department and Harris Armstrong, St. Louis. At left above: Francis Keally, F.A.I.A., New York, and C. E. Silling of Charleston, W. Va., Middle Atlantic regional director. Left: Robert Durham of Seattle and Albert Balch, Seattle builder and member of the A.I.A.-N.A.H.B. Joint Committee



Frank Lopez, the RECORD's senior associate editor; James Gambaro, Brooklyn; Mrs. Hauf; and Cmdr. Harold Hauf, editor-in-chief of the RECORD till his recall to active duty



L. Morgan Yost, Chicago, president of the host chapter, greets Kenneth Welch, Grand Rapids, while Philip Will Jr. of Chicago, one of the new A.I.A. Fellows, looks on



Great Lakes Regional Director John N. Richards and Mrs. Richards, Toledo; and Howard Eichenbaum of Little Rock, Ark., Gulf States Regional Director



Above: Clair E. Ditchy, A.I.A. secretary; Carter Hewitt, Peoria, Ill.; and Donald Kirby, San Francisco. Below: group at a cocktail party

Leonard Bailey of Oklahoma City was named director of the Central States District (Iowa, Kansas, Missouri, Nebraska, Oklahoma) in one of two contests for directorships. In the other, Charles O. Matcham of Los Angeles became director for the Sierra Nevada District (Arizona, California, Nevada, Hawaii and "other insular possessions in the Pacific").

1951 Gold Medal to Maybeck

Departing somewhat from previous custom, the convention had scheduled no principal speaker for the annual din-

ner. Mr. Walker, whose services to the Institute as president were cited by the convention in a resolution of gratitude and high tribute, opened the program that followed the dinner with a talk which culminated with the award of the A.I.A. Medal.

The Institute's Gold Medal, its highest honor, went to Bernard Ralph Maybeck of California; and his son, Wallen White Maybeck (an engineer) accepted the award for his 89-year-old father, who could not be present. He sent his greetings and his thanks in a record made for the occasion, though in the





Session on acoustics: R. Allen Wilson, Celotex Corp., Chicago; Hallowell Davis, Central Institute for the Deaf, St. Louis; Robert Newman, M.I.T.; Samuel Hooper of Remington Rand, New York; and Walter A. Taylor, director of education and research for A.I.A.

course of his remarks he observed that architects "are those who listen; they do not speak."

In an informal talk that was intensely interesting to his listeners, Wallen Maybeck provided some little-known details of his father's early life which made the man "come alive" for many who have known only his designs.

Also at the annual dinner, certificates of fellowship were presented in traditional ceremonies to the 39 new Fellows of the Institute (ARCHITECTURAL RECORD, May 1951, page 11).

A.I.A. Honors Awarded

Presentation of other awards took place at the convention's opening session. Thomas Church, landscape architect, of San Francisco, received the Fine Arts Medal; and a Citation for Craftsmanship in Glass went to Steuben Glass Inc., of New York City. The Craftsmanship award is made each year, like the

Fine Arts award; but this was the first time it had gone to a corporation.

Marshall A. Shaffer, A.I.A., senior engineer, U. S. Public Health Service, Washington, D. C., received the Edward C. Kemper Award. Honorary memberships were bestowed on Edwin S. Burdell, director of Cooper Union, New York City; Lewis Mumford, author and critic, New York City; and W. Engelbert Reynolds, commissioner, Public Buildings Service, Washington, D. C.

Recipients of honorary corresponding memberships were: Gines F. Rivera, Manila, Philippines; Andrew Graham Henderson, Glasgow, Scotland; J. Roxburgh Smith, Toronto, Canada; Edward Thomsen, Copenhagen, Denmark; Jacques Greber, Paris, France; Moustapha Fahmy Pasha, Cairo, Egypt; Michael T. Waterhouse, London, England; and Horacio Navarrete, Havana, Cuba.

Announcement of the 1951 National Honor Awards in Architecture and of

Panel on civil defense: Victor Gruen, Hollywood, Cal.; Morris Ketchum, New York; Lawrence Perkins, Chicago; Moreland Smith, Montgomery, Ala.; Perry B. Johanson, Seattle; and Harry Prince, New York Chapter president, moderator for the discussion



the 1951 Product Literature Competition Awards also was made at the opening session (see pages 282, 284, 286).

Defense "Confusion" Scored

The convention's "working" sessions on building under controls, the architecture of civil defense, planning as a weapon for defense and the education of architects provided information and debate on vital subjects; and the acoustics and modular coordination sessions continued the notable series of seminars on design fundamentals.

Apathy and confusion in the country's civil defense efforts and ineptness in government handling of materials allocations and building controls were sharply criticized.

These criticisms were supplemented before the convention closed in formal resolutions urging prompt action by the government to: appropriate additional funds for civil defense; provide information on structural designs for atomic blast resistance; make some definitive estimate on the probable construction pattern for 1952; relieve dislocations in the construction industry in key industrial and population centers where no defense construction is contemplated by an early relaxation of NPA Order M-4 in those areas; employ fully the training and abilities of all segments of the construction industry in planning and building national defense projects.

In other resolutions, the convention supported the Defense Housing Bill now before Congress, but went on record against any provision for "temporary" housing, and voted down overwhelmingly a resolution urging Congress to restore to the public housing program for the coming year the figure of 50,000 subsidized units which the House a few days earlier had cut to 5000.

Planning for Survival

Two major sessions were devoted to the responsibilities of architects in the civil defense program.

The first dealt directly with the architecture of civil defense — how to design for blast resistance and the problem of shelter. Fred N. Severud, New York consulting engineer, described the effects on structure of atomic blast and offered some conclusions about designing to counter them. Most needed in this field, he said, is "a personal, intimate understanding" of what the blast is and what it does so broad principles can be determined. Morris Ketchum, A.I.A., New York, speaking on "Group Shelters," and an architects' panel led by Harry

(Continued on page 280)

How to Stop CONDENSATION!

Prevent Damage to Wood, Plaster, Paint, etc.

As air grows colder, it can hold less vapor. Saturation increases until a dew-point is reached, and condensation occurs. The surface of a material colder than the contacting air it faces, and continuously losing heat on the other side, will continuously extract heat from the air by direct conduction. The denser and bulkier the material, the more heat will it extract and store before attaining room temperature, if it ever does.

For example, if ordinary insulation is installed with air spaces on both surfaces, it continuously absorbs and emits heat rays at a rate of over 90%. If installed without air spaces, there is even more heat flow continuously by direct conduction through solids. Each square foot contains about 363,314 fibers, with surfaces aggregating approximately 46 sq. ft. for condensation formation.

With multiple sheets of accordion aluminum, the sheet nearest the warm room weighs only $\frac{1}{8}$ oz. per sq. ft., absorbs and emits only 3% heat; thus extracts and stores practically no heat from the air, only enough to attain and remain at room temperature. The additional reflective air spaces on the other side are insignificant heat conductors. The other sheets of aluminum and fiber block convection heat losses to the "cold" side.

No condensation forms on the aluminum surface next to the warm room, for a dew point is never reached. The sheet's other surface faces a space which is a *little* colder than the aluminum. Since warmth flows to cold in radiation and conduction, the aluminum will *give off a slight* amount of heat to the colder space, thereby slightly *increasing* its vapor retaining capacity; making condensation impossible.

The next reflective space has almost the same temperature as the next aluminum surface, with its slight mass, $\frac{1}{8}$ oz. per sq. ft. The aluminum absorbs and emits little heat. Its other surface is slightly warmer than the air it faces; again there is no extraction of heat (the REVERSE), no dew point.

With 4 or 6 reflective spaces, there can be no dew point anywhere on or in such aluminum insulation. Should rain leak in, it will be slowly expelled as vapor, since exterior walls, in comparison to aluminum have a far greater permeability than the required minimum 1 to 5 ratio. Because aluminum is impervious to vapor flow, condensation on under surfaces of roofs and inner surfaces of outer walls is minimized.

THERMAL FACTORS, TYPE 6 INFRA
Up-Heat C.080, R12.50 equals 4" DRY Rockwool
Wall-Heat C.073, R13.69 equals 4½" DRY Rockwool
Down Heat C.044, R22.72 equals 7½" DRY Rockwool
VAPOR PERMEABILITY equals ZERO

INFRA INSULATION, INC.
10 Murray Street New York, N. Y.
Telephone: COrtlandt 7-3833



Condensation forms when temperature of contacting air is reduced below dew-point by a cold surface.

Condensation forms when the capacity of an air space at a given temperature is too small for the amount of vapor present.



INFRA INSULATION, INC.
10 Murray Street, New York, N. Y. Dept. R6
Please send me FREE, U.S. Bur. of Standards booklet:
"Moisture Condensation in Building Walls."

Name _____

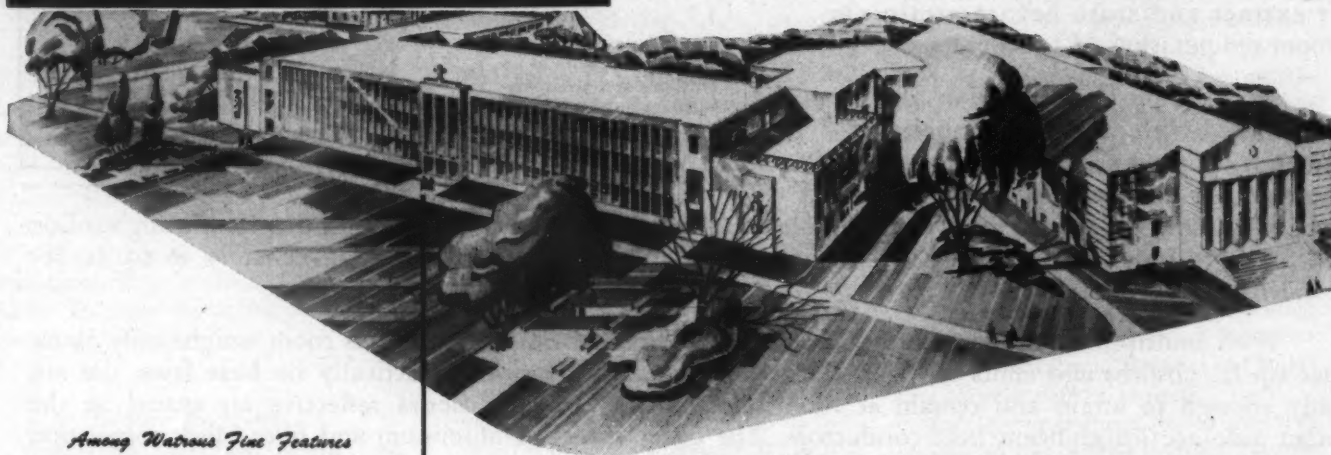
Firm _____

Address _____

☐ Send Prices of Infra Insulations ☐ Send Sample

Fine Flush Valves for Fine Buildings

For complete information on Watrous Flush Valves write for catalog No. 449-A.



Among Watrous Fine Features

Water-Saver Adjustment

All Watrous Flush Valves, both diaphragm and piston types, have an external adjustment for length of flush. Besides providing maximum water-savings,

this feature can insure peak operating efficiency from every fixture, and makes it possible to maintain efficiency over the years despite inevitable wear or changing operating conditions.



Watrous

ADJUSTABLE FLUSH VALVES
BOTH DIAPHRAGM AND PISTON TYPES

THE IMPERIAL BRASS MANUFACTURING COMPANY
1240 West Harrison Street, Chicago 7, Illinois

ST. JOSEPH'S HIGH SCHOOL

Cleveland, Ohio, one of the many fine buildings equipped with Watrous Flush Valves.

STICKLE, KELLY & STICKLE
Architects

GEORGE F. EVANS
Consulting Engineer

REED & CAMPBELL PLBG. & HTG. CO.
Plumbing Contractor

CRANE COMPANY
Plumbing Wholesaler

THE RECORD REPORTS

NEWS FROM WASHINGTON by Ernest Mickel

M-4 Amendment Puts Most Building Under NPA Control; Shortage of Mortgage Money Worries Builders at Low-Cost Housing Clinic; HHFA Seeks Quality Standards; CMP Rule on Construction Issued; All Structural Steel to be Regulated by Early 1952: Fleischmann

THE MAY 3 AMENDMENT to M-4 brought nearly every type of building under the direct control of the National Production authority.

Further conservation of steel and other construction materials in the interest of the defense program and coordination of requirements of the construction industry with the Controlled Materials Plan were cited by NPA as reasons for the move.

Architects and engineers were once again advised to "keep the design simple" and make every attempt to use substitutes for critical materials. NPA emphasized that applications for building permits would be sharply scrutinized on these counts.

The amendment requires authorization for apartment houses in excess of three stories and basement, houses costing more than \$35,000, buildings for radio broadcasting and television broadcasting, terminal warehouses and all private and public construction projects requiring more than 25 tons of steel. These provisions are included in a new section of the order, List C.

Other changes effected in the amendment:

The construction of advertising signs is prohibited by removal of that item from List B (construction requiring NPA approval) and putting in List A (prohibited construction).

The specific exemption of newspaper plants formerly included in the order is removed. They are now in List B under the item "printing or duplicating plant" and require NPA authorization.

One liberalization of construction regulations included in the amended order provides for certain installations such as box-type air conditioning units and similar improvements. A new section was added to provide for this additional exemption: "installation of personal property, fixtures or equipment where

the total cost incurred for installation in any consecutive 12-month period does not exceed \$2000."

A significant change in the NPA definition of commencement of construction also appeared in the amendment. A building is now considered to have been commenced by "substantial site clearance (including demolition of buildings or structures), preliminary to the start of or incident to the work on a new building, structure or project; or incorporating into a building, structure or project a substantial quantity of materials which are to be an integral and permanent part of such building, structure or project (for example, the pouring or placing of footings or other foundations)."

Under the old definition demolition of buildings and site preparation were not considered to constitute commencement of construction.

As originally adopted on Oct. 26, 1950, M-4 banned only construction of new buildings for amusement, recreational or entertainment purposes. An amendment in January established a permit system under which nearly all new private commercial construction was made subject to specific NPA authorization. Applications (on Form NPAF-24 furnished by NPA) have been processed and authorizations issued from 30 field offices of NPA since February 15, and interpretation so far has been fairly liberal.

Clinic for Home Builders

Memphis, the city where half a dozen contractors in the past two years have erected some 2000 units of modern, livable housing with rentals of \$35 to \$50 per month, was the scene last month of a new-style clinic.

More than 300 of the nation's leading operative builders met with federal housing officials and mortgage experts at a two-day conference on low-rent housing construction sponsored by the National Association of Home Builders.

The conferees had a chance to study the Memphis story and carry it back to their own associations for consideration

(Continued on page 18)



— Drawn for the RECORD by Alan Dunn

"Since you appear to be a thoroughly intelligent, happy and integrated couple, I am afraid I'll have to turn you down—my houses are supposed to solve a problem"

THE RECORD REPORTS

WASHINGTON

(Continued from page 17)

and application where possible. They also took part in a series of spirited discussions on some subjects that are basic for any evaluation of the outlook for home building.

On volume for 1951, the surprising (unofficial) consensus of the builders present was that they will top the government estimate of 800,000 to 850,000 units—and maybe by an impressive amount.

In general, builders are convinced that they can produce rental housing in abundance at lower costs. They are certain of their ability to penetrate that twilight zone lying below the minimum level at which most of them have been building since the war.

But this conviction is founded on some very important "ifs"; foremost among them: *if* the federal government provides the tools. Summarized generally, this means a modification and adjustment of Section 207 of the National Housing Act to result in closer conformity with the provisions of old 608.

Another condition stipulated by the builders deals with ready mortgage money. They say they must have a far more favorable mortgage market in which to deal if their plans for a greatly expanded low rental housing program are realized. They hoped the present tight money situation would begin to show improvement soon.

And still another *if* in this picture of potentially large quantities of new low-cost shelter involved the minimum property and construction standards of the Federal Housing Administration; more precisely, field office interpretation of MCR's and MPR's by FHA personnel in handling builders' projects.

Mortgage Money Crisis

The prime stumbling block to an immediate expansion of low cost housing construction on a nationwide basis—ultimate objective of the N.A.H.B. program—was the shortage of mortgage money.

In a hastily-called session at the Memphis conference, the 300 or so builders in attendance made it plain they considered the current crisis one of the

(Continued on page 20)



Model of laboratory building for Building Research Division, National Research Council

NEWS FROM CANADA by John Caulfield Smith

Research Council Is Planning Building Research Laboratory

CONSTRUCTION WILL BEGIN this summer on the laboratory building planned for the Division of Building Research of the National Research Council on the Council's Montreal Road site at Ottawa.

J. C. Meadowcroft of Montreal is architect; J. P. Keith and Associates, also of Montreal, are mechanical engineers.

Facilities for research into many phases of construction will be provided in two stories and basement, with a gross area of 55,800 sq ft and a gross volume of 870,000 cu ft.

No experimental features will be included in the construction of the building: the Council explains that the time allotted to design and erection of the building precluded the possibility of using it as a subject for building research.

Exteriors of the building will conform to existing buildings at the site, with continuous windows and a white stucco finish. Three courses of prismatic glass blocks will run horizontally above all windows to improve natural lighting. The building will be supported by a structural steel frame and exterior walls above grade will be terracotta tile.

The interior of the building has been planned for maximum flexibility. It will be divided into two general areas, the administration and office sections in the front of the building, laboratory space in the rear and the basement. Distribution of services to the laboratories was simplified by this arrangement.

Under this scheme, the general administration offices for the Division, as well as office space for the secretariats of the Canadian Government Specifications Board and the National Building Code, will be at the front of the building. None of these sections requires laboratory facilities. The Building Practice Group, which includes the Library, is also located in this area, as it deals, to a very large extent, with the general public. A conference room to accommodate up to 200 persons will be provided on the first floor.

The entire basement area will be devoted to laboratory space. One section, entirely below grade, will contain controlled condition rooms. These will consist of a climatometer room for testing the performance of full-scale wall sections under varying conditions of temperature and humidity; a low temperature room for research into the properties of snow and ice; and others for testing building papers, heat insulators and other materials. Another section, about 3600 sq ft in area, will have over 27 ft of clear head room and has been designed so that load-bearing tests can be carried out on structures of any size up to that of a full-scale house. Other laboratories for research in soil mechanics and building materials, including concrete and masonry, will be located on three floors in one wing. Services for these laboratories will be provided by vertical risers on an interior wall with horizontal distribution above hung ceilings.

(Continued on page 274)

fishin' is fun . . .
with care on the run



Here's a fellow that enjoys complete relaxation. He knows his plant is safeguarded from fire . . . a short circuit, a stray spark, a forgotten cigarette or spontaneous combustion can't cut into production time, destroy valuable records or endanger the lives of employees.

You too, can have this same peace of mind about fire by fully protecting your investment in materials, equipment and buildings with modern, approved C-O-TWO Fire Protection Equipment.

No matter what your property . . . factory, mill, warehouse, power station or research center . . . or a particular fire hazard such as spray booth, dip tank, pump room, electrical equipment enclosure or record vault . . . there is a type of C-O-TWO Fire Protection Equipment that gives you fast, positive action the instant fire strikes. Whether it's a C-O-TWO Squeeze-Grip Carbon Dioxide Type Fire Extinguisher for an incipient

fire, or a C-O-TWO Built-In High Pressure or Low Pressure Carbon Dioxide Type Fire Extinguishing System for total flooding an entire fire hazardous area . . . C-O-TWO means experienced engineering that assures you of the best type equipment for the particular fire hazard concerned.

For example, at many locations a C-O-TWO Combination Smoke Detecting and Fire Extinguishing System is a "must". The first trace of smoke in a protected area sounds an alarm . . . then fast, clean, non-damaging, non-conducting carbon dioxide blankets the fire, putting it out in seconds, before it spreads and causes extensive damage.

So, let an expert C-O-TWO Fire Protection Engineer help you in planning complete and up-to-date fire protection facilities now. Write us today for complete free information . . . our experience is at your disposal.



C-O-TWO FIRE EQUIPMENT COMPANY

NEWARK 1 • NEW JERSEY

Sales and Service in the Principal Cities of United States and Canada
Affiliated with Pyrene Manufacturing Company

MANUFACTURERS OF APPROVED FIRE PROTECTION EQUIPMENT

Squeeze-Grip Carbon Dioxide Type Fire Extinguishers • Dry Chemical Type Fire Extinguishers • Built-In Smoke and Heat Fire Detecting Systems
Built-In High Pressure and Low Pressure Carbon Dioxide Type Fire Extinguishing Systems

THE RECORD REPORTS

WASHINGTON (Cont. from p. 18)

most severe they have faced. There was general agreement that the problem would work itself out, perhaps in another five months or less, but the merchant builders wanted to know what they were to do in the meantime, faced as they might be with the necessity of laying off crews.

One of their own members, Thomas Coogan of Miami, advised them not to get panicky and start offering their

mortgages at less than par. He urged them to cut down on housing starts for a while, and to "warehouse" their mortgages to keep them off the distressed market until things get better.

N.A.H.B. has reported that evidence from every part of the country indicates an almost complete withdrawal from the market of large investors. Some panic-selling and bargain-buying has added fuel to the fire, the association said.

While all the Memphis low-rent housing was constructed under the former Section 608 of the National Housing Act, the conviction persisted that builders elsewhere could achieve lower costs than they now experience through close attention to design and cooperative action from their FHA field offices. Climatic and labor cost differentials were taken into consideration in comparing the Memphis 608 housing with what might be constructed in other parts of the country using 207 as the financing vehicle.

207 Rent Formula Lowered

Some concession came in the announcement that FHA had switched from a rent formula of seven-and-a-half per cent under Section 207 to seven per cent. Commissioner Franklin D. Richards, in explaining the drop, estimated it would result in a reduction of approximately five per cent on rentals of new units. All the savings comes on the amount of payment to principal, which was lowered from two-and-a-half to two per cent.

The federal government spokesmen at the conference pledged no specific modifications in 207 beyond this. But they did signify that instructions to field offices would result in a closer cooperation with the builder and a better understanding on the part of FHA field personnel of national office intentions. This referred to the actual handling of builders' projects and implied the possibility of a more liberal attitude toward MCR and MPR interpretation. It met with enthusiastic approval from the builders.

Representing the federal housing agencies at the intensive discussions in Memphis were Raymond M. Foley, administrator of the Housing and Home Finance Agency; Franklin D. Richards, commissioner of the FHA, and his assistant commissioners, Curt Mack, Clyde Powell and Herbert Redman.

Mr. Richards summarized the federal government viewpoint thus:

"I feel confident that this meeting will prove to be a milestone in the development of adequate low-rent housing. Production is the key to the future, and to that end I promise you the full support of the FHA within its legal ability to help provide low cost housing for the average American family.

"This meeting is a focusing of attention of our more efficient builders along a path of endeavor leading to serving the mass market where the need is greatest."

(Continued on page 22)

SCHOOL BUILDINGS

Your Tax Dollars

Can Afford



This timely publication, featuring one story schools built of wood frame construction in all parts of the country, is so popular that it is now in its third printing.

Architects like its 24 pages of exterior and interior illustrations—its carefully prepared data on costs, safety factors for fire, earthquake and wind, flexibility, permanence and—its illustrations of well designed Teco timber connector trusses, glued laminated arches and Lamella roof construction.

Experienced fabricators in all sections of the country are ready to supply timber trusses and framing ready to erect for schools and other types of buildings.

Specify timber—there's plenty of it and ready as usual for early delivery.

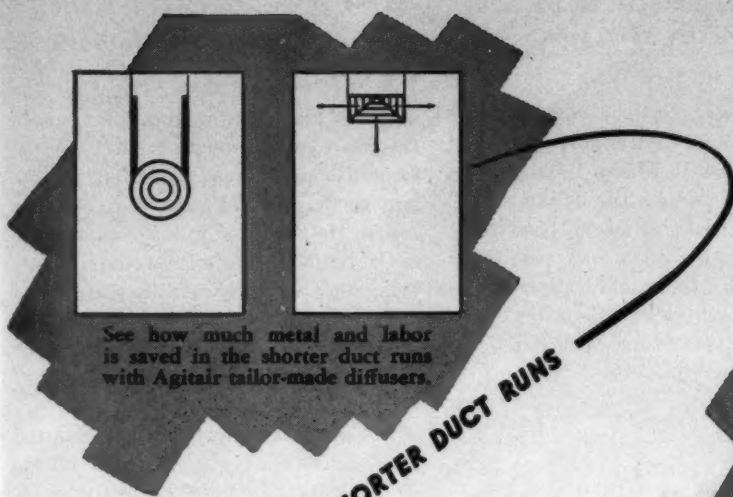
TIMBER ENGINEERING COMPANY 1319 18th St., N.W., Washington 6, D. C.

Please send me FREE copy of "School Buildings Your Tax Dollars Can Afford."

Name.....

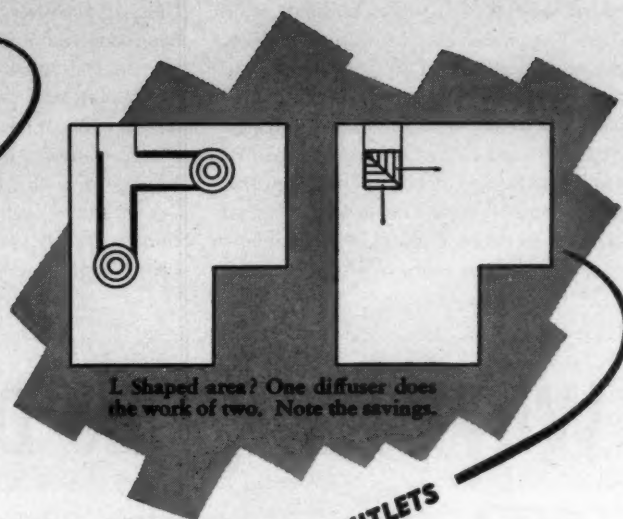
Company.....

Street..... City..... State.....



See how much metal and labor is saved in the shorter duct runs with Agitair tailor-made diffusers.

SHORTER DUCT RUNS



L Shaped area? One diffuser does the work of two. Note the savings.

FEWER OUTLETS

Save Metal...

Cut Costs...with

AGITAIR®

**SQUARE & RECTANGULAR
AIR DIFFUSERS**

Compare the diagrams on this page and you'll understand why today — more than ever before — it's important to specify AGITAIR Type R. They are the only diffusers that may be assembled in a variety of patterns to provide blows in one — two — three and four directions, with discharge orifices proportional to the area being served. Yes — you can help overcome the metal shortage and reduce the cost of duct work — *without reducing the efficiency of air distribution*. Specify AGITAIR . . . the only air diffuser tailor-made for each application.

Write for Complete Data

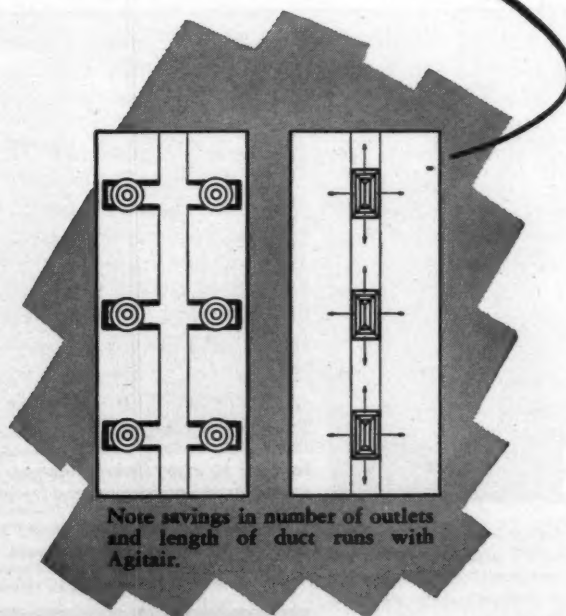
AIR DEVICES Inc.

17 East 42nd Street

New York 17, N. Y.

Air Diffusers • Air Filters • Roof Exhausters

**CONSERVE CRITICAL
MATERIALS**



Note savings in number of outlets and length of duct runs with Agitair.

*The Only Air Diffuser
Tailor-Made
for Each Application*

THE RECORD REPORTS

WASHINGTON (Cont. from p. 20)

Also described to the builders was a new approach to the amortization scheme under section 207. It henceforth will be on the 39 years and three months basis, but with a declining monthly payment provided rather than the constant figure for the life of the insured loan so familiar under 608. The new system is expected to make it possible for builder-owners to reduce rents over a period of

time, if necessary, to meet competitive conditions incident to new projects coming on the market. This declining annuity plan was, in fact, the basis for reducing the initial curtail of principal from two-and-a-half to two per cent. The FHA staff found this could be done and "economic soundness" of the project retained at the same time. The builders heard analysis of this view.

Architect's Function Is Basic

It was evident that FHA feels the architect must play an important part in this low-cost housing program. Commissioner Richards urged the builders to begin their economies at the drawing board. He answered protests that many of the projects submitted would not pass field office scrutiny with a promise of close examination in Washington. The builders were urged to override their local FHA offices in instances where their designs would not pass.

In Chicago, meanwhile, architects and home builders continued earlier efforts to team up their talents and forces for better housing for America. They began tying their cooperative endeavors into the defense mobilization picture. The joint committee of architects and builders by resolution urged the National Production Authority to adopt specific measures to prevent waste of building materials. It said that copper, steel and other scarce materials were being wasted by obsolete building methods required in most cities by building codes "or perpetuated by tradition and inertia." Most important, it called for government action to make conservation measures mandatory for housing it builds or aids financially, and allow them as minimal requirements in other housing.

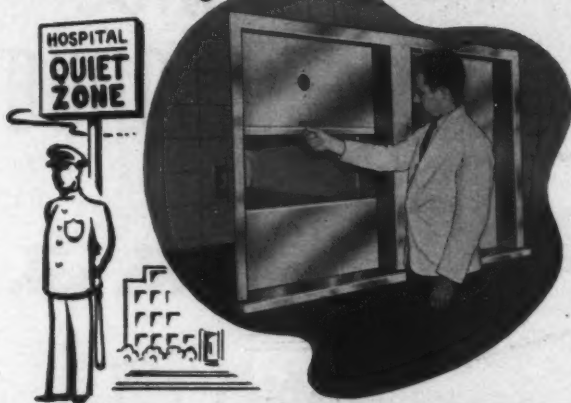
But on the subject of architect-builder cooperation the joint committee, now a year old, decided a new kind of service for the commercial builder will have to be learned by architects practicing in the field. It was said that today most architects can offer the builder of hundreds of homes only the conventional design contract and the services they render private clients. The builder finds this unsuited to his particular needs. Too few architects, it added, are prepared to give the special services the large-scale builder needs.

After a year of meetings of this joint group, it appears the problem now is to get the new-found understanding between the two groups off the drafting boards and onto the building sites.

One tangible result of the Memphis clinic was the decision to assemble the plans and specifications not only of the Memphis builders in the low-cost rental field, but those of other N.A.H.B. members who have been reaching down into the lower cost levels. Carl Lans, N.A.H.B.'s research director, will head up this effort. The best features of all the plans will be coordinated into a mass-

(Continued on page 24)

Why SLAM the Door...



...on greater

- Economy!
- Eye-Appeal!
- Extra Protection!
- Ease of Operation!

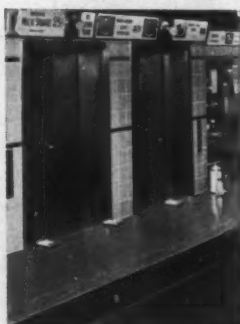
SECURITY Uni-Bilt DUMBWAITER DOOR UNITS

... vastly different from other makes—Security Door Units are doing a smoother, quieter, better job for America's most progressive hospitals and restaurants.

Although frequently overlooked, proper construction and design of Door Entrance Units is essential to any Dumbwaiter, trayveyor, or subveyor installation. No part receives more wear or is subject to as much damage or abuse.

Factory-assembled as a complete door with frame and trim as a unit, these easily installed doors must be set before walls are erected. Constructed to give **LASTING** trouble-free service, Security Doors provide improved operation with their adjustable **ANTI-FRICTION GUIDE SHOES** and rugged, easy action **THUMB-OPERATED POSITIVE LATCHES**. **ELECTRIC INTERLOCKED** for Safety with Security's own sturdy switches, these doors are usually furnished with **INSULATED PANELS**, and may be **UNDERWRITERS LABELED** for complete fire protection.

For over 30 years Security has specialized in, developed, and built unsurpassed Dumbwaiter and Freight Elevator Door Entrance Units



Counter Door Units at F. W. Woolworth's largest store in Houston are typical of Security installations in Woolworth stores throughout the country.

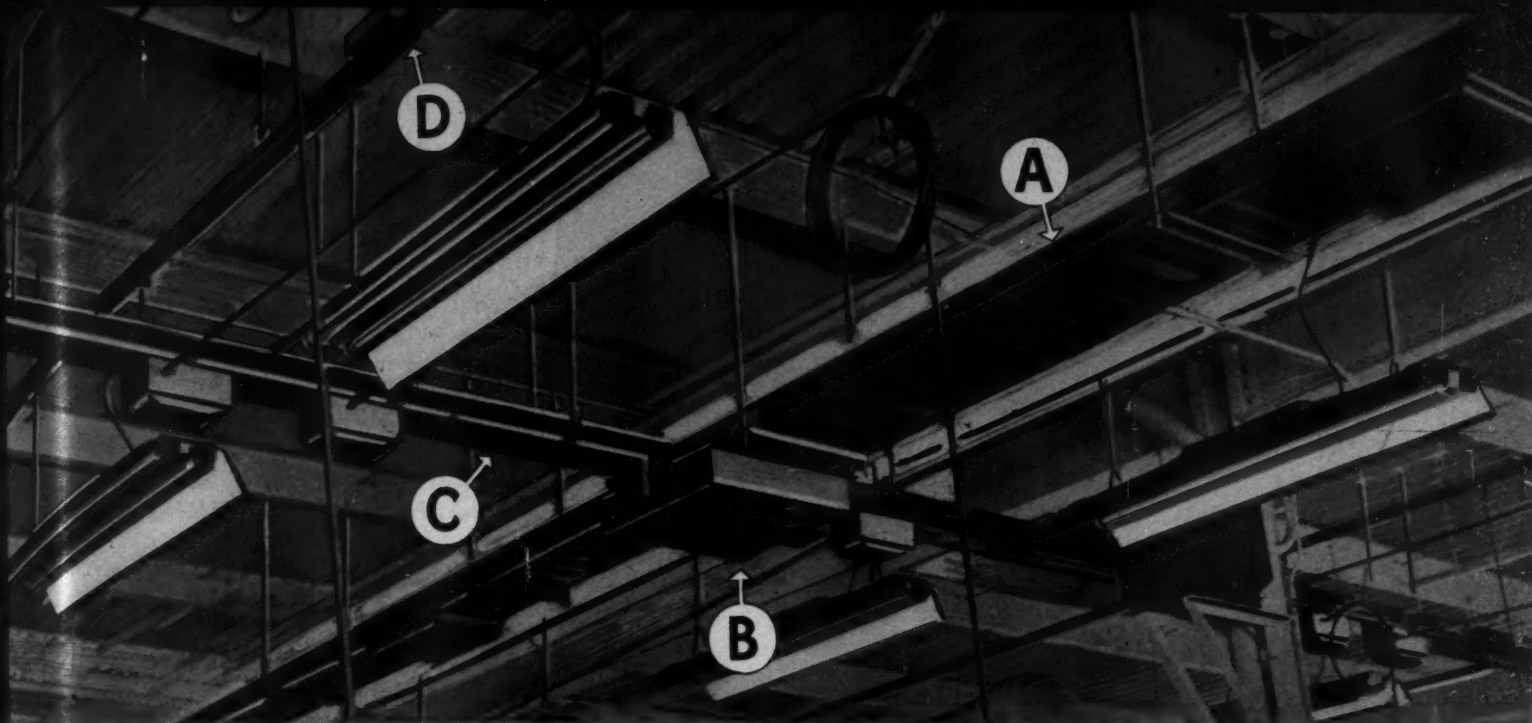
S. H. Kresge, Sears Roebuck and W. T. Grant are other chains that have many Security installations.

Write for Catalog

A FEW OF THE MANY HOSPITALS USING SECURITY UNITS
 • St. John's, Detroit • Cedars of Lebanon, Los Angeles • Blodgett, Grand Rapids
 • U. of Cal., Moffitt Hospital, San Francisco • Good Samaritan, Los Angeles
 • Grace-New Haven, New Haven

Security Fire Door Co.

3047 LAMB DIN AVE., ST. LOUIS 15, MO.



MAIN FEEDER AT SEALED POWER CORP. Trumbull LVD FLEX-A-POWER high-capacity feeder (A) distributes power through plant with minimum voltage loss. Can be dismantled, relocated with

complete salvability. Tap box (B) takes off power for FVK secondary feeders (C). 600-4000 amperes. LTC (D)—see below—is used for lighting. Bulletin TEB-1.

SECTIONALIZED POWER FEED

is ready for quick conversion

No plant... few buildings... can foretell what its power requirements will be months—or days—ahead.

But with FLEX-A-POWER® handling the electric power distribution from main switch or breaker to machine or lamp... any new requirement, additional load or rearrangement of load, can be easily met.

This system of standard-section busways gives utmost flexibility in power take-off, and, if necessary, can be taken apart for quick relocation. Easier to install than wiring and conduit—and more economical—it is ideal for a period when emergencies may develop, when conversion may be necessary.

Write us for literature on the types that interest you.



LIGHT-DUTY BUSWAY AT PESCO PRODUCTS Division of BORG-WARNER CORP. Use of LTC FLEX-A-POWER to distribute power to tools and lighting fixtures permits quick changes in machine layout without delay for rewiring. Busway can be tapped at any point by plug or trolley—every inch an outlet. Rated 50 amperes. Bulletin TEB-2.



SECONDARY FEEDER AT PESCO PRODUCTS Division of BORG-WARNER CORP. Nearly ¼-mile of 600 amperes, 440 volt Trumbull FVK FLEX-A-POWER takes power from a panelboard in parallel runs over entire area. 15 outlets to each 10-ft. section. No expensive rewiring needed when relocating loads. Can also be easily dismantled and re-installed. 225-1000 amperes. Bulletin TEB-4.

TRUMBULL ELECTRIC

PLAINVILLE, CONN.

Another Globe Elevator!

America's Most
Economical Elevator
to Install, Operate
and Maintain for
APARTMENTS
FACTORIES
HOSPITALS
HOTELS
✓ **STORES**
WAREHOUSES



This 36-passenger Globe Elevator, serving 4 floors, was installed recently in a well known Boston department store. (Name on request)

The Globe Elevator operates on the exclusive OiLIFT principle. Its ascent is powered by an oil operated cylinder, and it descends by gravity. This makes the Globe OiLIFT simple in design, easy to install, economical in first cost and operation.

Its maintenance cost is far lower than that of cable-type elevators. Over a period of 20 years, the owner of an OiLIFT will save more than the original cost of the elevator. More and more architects are realizing the unusual economy of the OiLIFT.

Globe Elevators are custom-assembled to meet your specifications. Write today for our informative Bulletin AR-304 on passenger and freight elevators. It belongs in your files.



GLOBE

OiLIFTS



BY THE WORLD'S LARGEST
MAKERS OF HYDRAULIC
LIFTS, ELEVATORS AND
AUTOMOTIVE HOISTS

GLOBE HOIST COMPANY, 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa & Philadelphia, Pa.)

THE RECORD REPORTS

WASHINGTON
(Continued from page 22)

ter set and this master plan then will be submitted to the FHA for its approval or for suggested changes.

Saner, Not Smaller: HHFA

Adequate space for allowed housing rather than smaller and smaller houses is the avowed aim of the Housing and Home Finance Agency's Research Division as it continues to work on its emergency housing standards.

The standards are being prepared to aid federal control agencies in estimating materials requirements for housing and to encourage local building code revision aimed at further materials conservation. This approach is the current substitute for the mandatory housing specifications used in World War II.

The researchers are using 1050 sq ft as the minimum space specification for a conventional three-bedroom single-story house. A division spokesman explained that the agency is seeking a factor for estimating material needs per house, whether it is bd ft of lumber, or copper, aluminum or other materials expressed in their unit measurement.

It is an effort, the spokesman emphasized, to write reasonable specifications for permanent housing.

CMP Reaches Construction

The construction industry still awaited specific details on the Controlled Materials Plan. National Production Authority, preparing the intricate machinery for running this complicated procedure of materials allotment, starting July 1, promised clarifying directives soon.

The announcement two months ago that there actually would be such a plan dispelled a flock of rumors that the Administration had given up the idea. A general description of the plan was made available in a pamphlet issued by NPA soon after the announcement; and then in May there came a series of new directives, one of which concerned itself with construction exclusively. This was Regulation 6.

NPA first issued Regulations 1 and 3 early in May. No. 1 set the basic pattern for operations under CMP, particularly at the manufacturer's level. No. 3 dealt with preference ratings on different

orders — the banding system. Nos. 2 and 4 followed soon, on inventories and warehousing respectively.

No. 6, on construction, was among the last to be issued.

Architects were studying the NPA pamphlet closely. It covered CMP operations in a very general way, describing lists "A" and "B," considered the working base for the program.

In general, list "A" includes products "where the most convenient method of production authorization is vertical." Producers of "A" products will get their production authorizations and material allotments from their customers. A prime contractor's customer is a government agency. A subcontractor's customer is a prime contractor or another subcontractor.

More interest centers in the "B" listings, however, since the "A" items are mostly custom-tailored for military uses. The "B" list programs include products where it is most practicable to furnish authorizations horizontally; that is, directly to the producer. So, this list embraces many civilian-type products, industrial machinery and equipment and components which are needed for defense.

It is important to note that producers on the "B" list will receive their authorizations and allotments directly from their NPA Industry Division.

Present plans call for decentralizing CMP operations after the first quarter of its application. Authorities do not expect it to make its mark on the economy much before September 30 anyway. In this decentralization process, the administrative procedures will follow those of the World War II CMP. It was felt then that in a great majority of cases authorizations and allotments were best handled through the field offices. When the functions are scattered, most producers then will apply to their local offices, cutting down on paper work in Washington and saving producers' time, trouble and expense.

N.A.H.B. Looks at CMP

The new system for controlling supplies of steel, aluminum and copper, while not affecting the home building industry so directly as some others, will have an important bearing on the availability of items made from these metals for incorporation in new housing. The National Association of Home Builders gave its membership the following

(Continued on page 26)



Photo courtesy Holiday Magazine

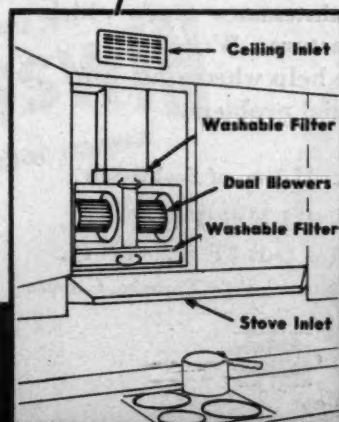
KITCHEN VENTILATION AT ITS BEST IN HOLIDAY HOUSE

made only by TRADE-WIND

This cabinet ventilator — the Super Clipper — which is now serving thousands of homes, including Holiday House, is the perfect answer to *complete* kitchen ventilation.

The unit has *dual* inlets — at the ceiling level and above the range. It fits compactly into a wood or metal cabinet and has ample capacity (550 CFM) to do a thorough, quick job.

Write today for complete details of this advanced kitchen ventilation.



TRADE-WIND
MOTORFANS, INC.

5707 S. MAIN ST., LOS ANGELES 37, CALIF.

THE RECORD REPORTS

sketch on what the plan might mean to them:

"The credit controls and limitation orders of many types will, presumably, restrict the total production of non-defense items (including building materials and housing) so that there will be a sufficient supply of metals to meet the production needs of both defense and non-defense items.

"For example, if Regulation X and

WASHINGTON (Cont. from p. 25)

other credit controls cut housing 35 per cent and if the CMP cuts manufacturers of hot water heaters by 35 per cent, there will be a theoretical balance between supply and demand. However, the serious fallacy of such an approach is that the unrestricted, and in fact, accelerated demand from maintenance and repair will undoubtedly drain off a substantial percentage of such items from new construction."

Specify Correct Maintenance Products



*plan
longer life
for floors*

GIVE FLOORS THE RIGHT START

FLOORS have a much greater life expectancy, and a better chance for keeping their beauty when they are started on the right maintenance program. Wood, terrazzo, linoleum, asphalt, rubber and cork tile and other materials have specific maintenance needs which **Huntington Laboratories** manufactures. Write for our literature and ask for our help when you have a special problem.

Made by the Makers of Seal-O-San

**HUNTINGTON
LABORATORIES, INC.**

Huntington, Indiana • Toronto, Canada



see catalog 13J in Sweet's

PAK Terrazzo Seal
for curing and sealing.
SEAL-O-SAN Finishes
for every wood floor.
FLOOR-SAN Cleanser
safe and thorough.
WEATHERALL Wax
water resistant, oil-slip.

Application forms are being required from manufacturers of such items as fabricated structural steel products, electrical wiring devices and supplies, lighting fixtures, cut nails, millwork, prefabricated wooden buildings, window and door screens, flat glass products, insulation, hardware, hand tools, plumbing fixtures, metal doors and sash, and sheet metal products such as roofing.

On the other hand, producers of certain metal-using items were permitted in the original plans to scramble for their materials on the open market — left out in the "open end" area where steel, aluminum and copper supplies will not be subject to the application of CMP. These included the makers of household refrigerators, residential heating and cooking equipment, household electrical appliances, and a rather long list of non-housing items.

Pattern for "Critical" Areas

While NPA worked out the final details of its new CMP, and as the defense housing bill continued to stagnate in the House Banking committee, the Interagency Critical Areas committee of the Defense Production Administration named a few more areas that will benefit by relaxation of the credit control on real estate transactions. San Diego, Calif., Corona, Calif., and Colorado Springs, Colo. were among those designated recently.

Along with the Savannah River area in S. C., and Paducah, Ky., and Arco, Idaho, these localities now will enjoy certain limited benefits in the modification of Regulation X credit restrictions imposed by the Housing and Home Finance Agency and the Federal Reserve System. The actions applied specifically to 500 new rental and sales units in the Arco area, 6000 in the San Diego location (4000 rental and 2000 sale), 150 at Corona, and 1000 at Colorado Springs.

There was a pattern of cause guiding the interagency committee's deliberations. Atomic Energy Commission installations were responsible for the Regulation X modification for Savannah River, Paducah and Arco. These created immediate demands for additional housing units, and for community facilities to serve them. The interagency committee could stipulate the Regulation X relaxation to alleviate the former condition — housing shortages — but not much could be done toward providing federal aid for construction of most community facilities beyond the advance loan program of

(Continued on page 242)

For **"TOUGH and GO"** action

Russwin Fire Exit Bolts

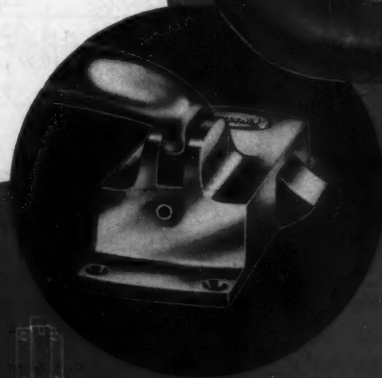
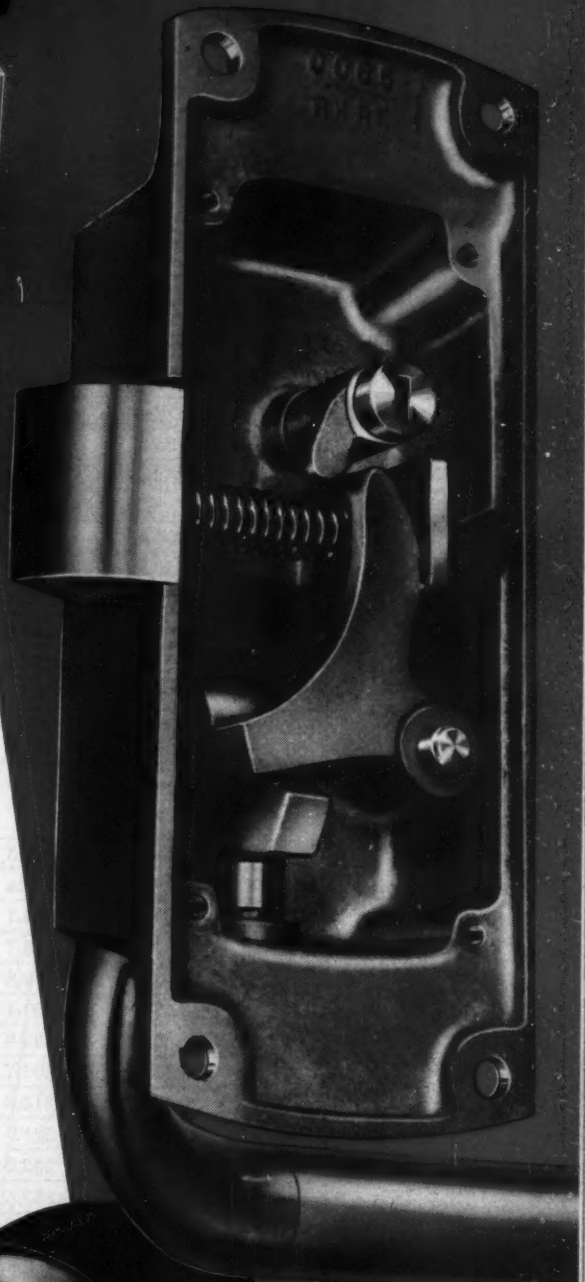
Your recommendation on emergency door exit bolts probably gets more customer consideration than any other hardware item. In the Russwin line, you have a very special "talking" point . . . its extremely simple mechanism . . . only 3 moving parts. You can see how sturdy it's made from the illustration at the right . . . and each part is positively aligned. Such simplicity assures "touch and go" action at all times.

OTHER FEATURES INCLUDE . . .

- drop forged levers • unit construction for balanced action
- advanced-design dogging device • Oilite bearings
- self-latching • Russwin ball-bearing cylinders

Whatever your needs for emergency door equipment, there are Russwin products to fill them. Russwin fire exit bolts are classified into three divisions . . . heavy duty rim type, side latching; heavy duty, top and bottom and side latching; medium weight — competitive type — top and bottom latching and side latching. Specify Russwin Fire Exit Bolts with the utmost confidence. Russell & Erwin Division, The American Hardware Corp., New Britain, Conn.

SINCE 1839
RUSSWIN[®]
DISTINCTIVE HARDWARE



FOOL-PROOF DOGGING DEVICE

Positive, Tamper-Proof dogging device permits locking bar to be pressed position, retracting bolt so that bar becomes a simple push and pull bar on door.



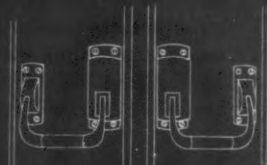
Single Door,
Rim Type



Single Door,
Median Type



Top and Bottom
Latching



Double Door, Rim Type
with Wrought Steel
Removable Mullion

THE RECORD REPORTS

CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926-1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assoc., Inc.

NEW YORK

Period	Residential		Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Brick and Concr. Steel		Residential	Apts., Hotels Office Bldgs. Brick and Concr.	Commercial and Factory Bldgs. Brick and Brick and Concr. Steel	
	Brick	Frame		Brick	Steel	Brick	Frame	Brick	Steel
1925	121.5	122.8	111.4	113.3	110.3	86.4	85.0	88.6	92.5
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4
1940	126.3	125.1	132.2	135.1	131.4	91.0	89.0	96.9	98.5
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4
1947	219.3	222.0	207.6	207.5	203.8	180.4	184.0	158.1	157.1
1948	250.1	251.6	239.4	242.2	235.6	199.2	202.5	178.8	178.8
1949	243.7	240.8	242.8	246.4	240.0	189.3	189.9	180.6	180.8
1950	256.2	254.5	249.5	251.5	248.0	194.3	196.2	185.4	183.7
Jan. 1951	270.6	269.3	260.6	262.2	259.4	209.2	210.8	200.0	199.0
Feb. 1951	273.3	271.5	262.4	263.6	262.1	211.2	212.8	201.0	200.0
Mar. 1951	273.5	271.7	262.7	263.8	262.3	212.8	214.4	203.0	201.6
Mar. 1951	121.5	122.0	101.0	97.8	101.6	146.6	158.0	113.5	107.0

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5
Jan. 1951	247.2	243.2	232.6	235.6	233.8	240.2	235.4	235.0	239.1
Feb. 1951	248.8	245.2	233.2	236.1	234.7	242.5	238.3	236.7	240.4
Mar. 1951	249.0	245.4	233.5	236.3	234.9	242.9	238.7	237.2	240.8
Mar. 1951	126.0	129.3	96.7	97.2	97.4	130.0	140.4	102.0	97.5

SAN FRANCISCO

1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8
1950	232.8	230.7	221.9	225.3	222.8	227.0	223.1	222.4	224.5
Jan. 1951	247.2	243.2	232.6	235.6	233.8	240.2	235.4	235.0	239.1
Feb. 1951	248.8	245.2	233.2	236.1	234.7	242.5	238.3	236.7	240.4
Mar. 1951	249.0	245.4	233.5	236.3	234.9	242.9	238.7	237.2	240.8
Mar. 1951	126.0	129.3	96.7	97.2	97.4	130.0	140.4	102.0	97.5

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926-29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95
(both indexes must be for the same type of construction).
Then: costs in A are approximately 16 per cent higher than in B.
$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.
$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear regularly on this page.

ANOTHER ADVANTAGE OF BUILDING WITH HOMASOTE...

MAXIMUM SIZE, STRENGTH and INSULATING VALUE combined with LIGHT WEIGHT

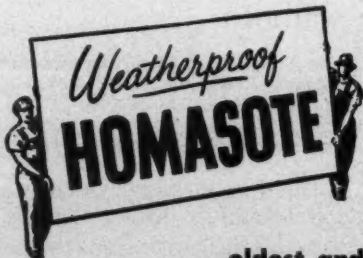
No matter what the emergency, Weatherproof Homasote always plays an important part in the construction picture. This famous insulating-building board—combining unusual strength with sizes up to 8' x 14'—meets all types of military and civilian construction, temporary or permanent ... barracks, warehouses, housing, field and ammunition shelters, field kitchens, camouflage, map mounting and road signs. Homasote's light weight makes it easy to handle; its strength and compactness permit easy portability without breakage.

For new home construction, Homasote provides the strongest insulation-board sheathing available. For interior, dry wall construction, the big sheets provide crackproof walls and an ideal base for either wallpaper or paint. The average room wall is covered with one piece—8 feet high and up to 14 feet in length! With its high resistance to air infiltration and moisture, Homasote has successfully withstood the greatest extremes of snow, hurricanes, tornadoes and floods—from the Aleutians to the Antarctic.

For modernization and repairs, Homasote finds many uses in all types of buildings ... to finish an attic or add a room; for renovating porch ceilings; for factory office partitions; for storage and construction sheds, garages, play houses, tool houses, barns, roadside stands, dog houses, bath houses; for outdoor advertising signs; for boat and trailer interiors.

Write for literature and specifications folder showing how to use this outstanding product. *Please give us the name of your lumber dealer!*

HOMASOTE COMPANY, Trenton 3, N. J.



... in Big Sheets up to 8' x 14'

... oldest and strongest insulating-building board on the market



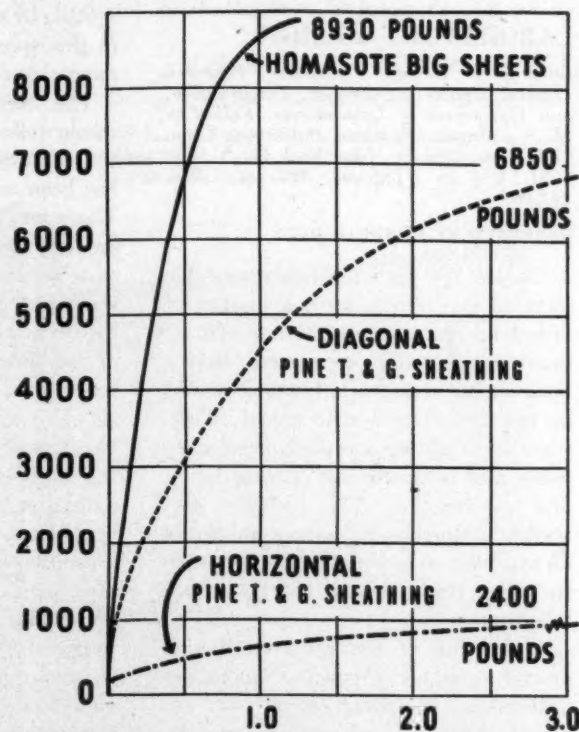
Nova Sales Co.—a wholly-owned Homasote subsidiary—distributes the Nova Roller Door, Nova-I. P. C. Waterproofing Products, the Nova Shingle and Nova-Speed Shingling Clip and the Nova Loc-Nail. Write for literature.



NO NEED TO FEAR
HURRICANES
TORNADOES
TWISTERS



... for the Emergency
... for New Home Construction
... for Modernization of
homes, offices, factories,
farm buildings



RACKING TESTS prove Homasote Sheathing 33.6% stronger than diagonal wood sheathing and 272% stronger than horizontal wood sheathing.

REQUIRED READING



LABORATORY DESIGN

Laboratory Design: National Research Council Report on Design, Construction, and Equipment of Laboratories. Edited by H. S. Coleman. Reinhold Publishing Corp. (330 West 42nd St., New York 18, N. Y.), 1951. 8¾ by 11¾ in. 393 pp., illus. \$12.00.

REVIEWED BY KENNETH REID

The last few years have seen a notable increase in the number and quality of industrial and educational research laboratories and it is appropriate that a book should appear at this time to add up the experience and technical knowledge accumulated by those who have taken part in the process of their design and construction. The National Research Council is to be congratulated on what should be a highly useful volume to assist those responsible for future laboratories.

Authorship of the book is divided among a number of eminent laboratory authorities, including architects, engineers, educators, laboratory directors, scientists and technicians—forty-two of them, if my addition is correct—under the chairmanship of Mr. H. S. Coleman of the Mellon Institute. It is thus more in the nature of a symposium than of a straightaway book, and of course enjoys the advantages of bringing many expert points of view to bear on the problem as well as the disadvantage of containing a number of divergencies and differences of opinion. Yet when

authorities disagree, the mature reader makes up his own mind, which is just as well if continued progress is to be made.

There are four principal parts in the book. The first deals with the several general technical matters common to all laboratories: construction, lighting, heating and ventilating, plumbing and power services, safety precautions, etc. Then come two extensive portions dealing first with the problems of teaching laboratories and second with those of industrial research laboratories. Finally there is a series of discussions of some of the more recent laboratories of both types. In all cases the text has been written by men of substantial experience in this special field so that their judgments have weight.

The many illustrations are on the whole well chosen and give evidence that the art of designing laboratory buildings has been moving in the right direction. There has been a general trend toward greater flexibility in the construction systems used, in recognition of the constantly changing needs of the scientific explorers who use the facilities. Methods of installing and maintaining laboratory services have improved due to forethought and careful planning. Particularly gratifying is the indication that the big corporate owners of some of the great industrial laboratories have thought it worthwhile to invest generously in the amenities as well as in the necessities for their personnel. They have found (and are finding) that it pays to give their workers of both high and low degree the environment as well as the equipment to make their daily activities comfortable and pleasurable.

Laboratories built since the material for this study was assembled as well as those now being built or designed show still further advances in convenience and efficiency, and those to be done in the future will undoubtedly be better yet, but the principles and directions of these developments are recorded in the buildings pictured and described in this volume for the wise architect to discern.

It is a minor point, perhaps, but one could wish that not so many of the scientific participants in this symposium cherished the notion that architecture is concerned mostly with outer embellishment. That obsolete conception crops up so often as to seem almost menacing. Those who hold it undoubtedly suffer from having been housed in the earlier, more academic types of formally enclosed space. They would benefit from a visit to, let us say, the Bell Laboratories at Murray Hill, New Jersey, where they would discover that the whole modern laboratory plant is a completely integrated affair, in which every part—from the services provided to an individual laboratory cell to the general treatment of the site relationships—has been thought out architecturally and with understanding of its place in the whole scheme. The laboratory facilities are the architecture and the architecture is the laboratory; they are inseparable. General understanding of this point may usher in the architectural millennium, but it is apparently a long way off.

Laboratory design is a highly cooperative and collaborative business, in which the best thinking of many minds must be involved. The client and the architect, each assisted by a number of specialists in particular phases of a problem, must work together from the start, and must join their wisdom over a period of years before the final result is materialized. That way only are good modern laboratories born.

SCHOOLS

The New School. Das Neue Schulhaus. La Nouvelle Ecole. By Albert Roth. Girsberger (Zurich), 1950. 7 by 9½ in. 223 pp., illus.

REVIEWED BY N. L. ENGELHARDT, SR.

This three-in-one volume, with parallel translations in three languages, originated, as the author states, in the desire that the Education of youth should take place in genuinely harmonious surroundings. The author has endeavored to

(Continued on page 32)

INSULATED

METAL WALLS

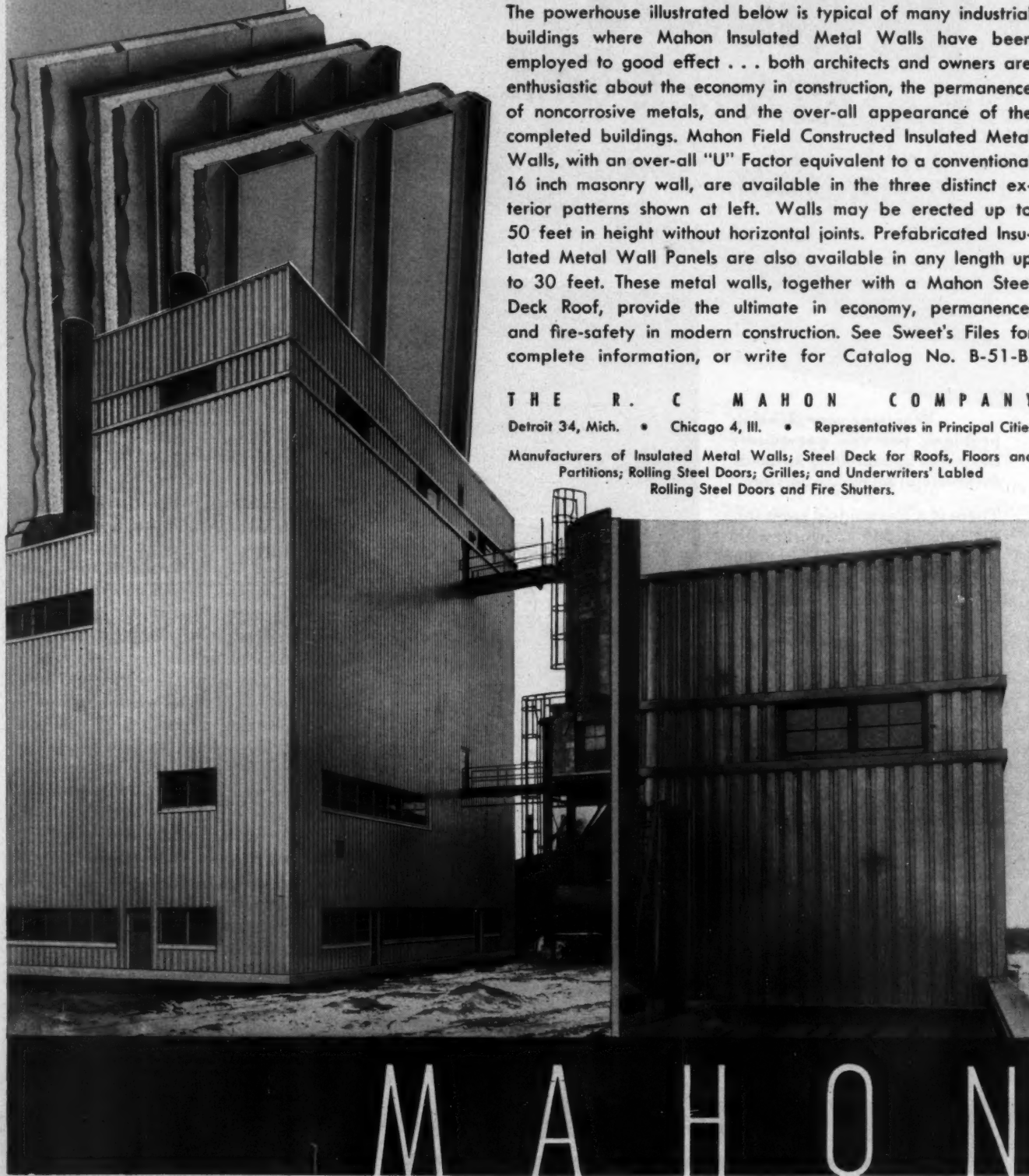
for INDUSTRIAL and COMMERCIAL BUILDINGS
ALUMINUM, STAINLESS or GALVANIZED STEEL

The powerhouse illustrated below is typical of many industrial buildings where Mahon Insulated Metal Walls have been employed to good effect . . . both architects and owners are enthusiastic about the economy in construction, the permanence of noncorrosive metals, and the over-all appearance of the completed buildings. Mahon Field Constructed Insulated Metal Walls, with an over-all "U" Factor equivalent to a conventional 16 inch masonry wall, are available in the three distinct exterior patterns shown at left. Walls may be erected up to 50 feet in height without horizontal joints. Prefabricated Insulated Metal Wall Panels are also available in any length up to 30 feet. These metal walls, together with a Mahon Steel Deck Roof, provide the ultimate in economy, permanence, and fire-safety in modern construction. See Sweet's Files for complete information, or write for Catalog No. B-51-B.

THE R. C. MAHON COMPANY

Detroit 34, Mich. • Chicago 4, Ill. • Representatives in Principal Cities

Manufacturers of Insulated Metal Walls; Steel Deck for Roofs, Floors and Partitions; Rolling Steel Doors; Grilles; and Underwriters' Labeled Rolling Steel Doors and Fire Shutters.



MAHON

MEMO:

SOLUTION

To Your Design Problem:

REYNOLDS

Complete Architectural Aluminum Service!

Whatever your planning problem, you can get expert assistance by consulting Reynolds Architectural Aluminum Service.

There is a Reynolds Aluminum Specialist ready to work with you on any design. He has the know-how and experience to help you get the maximum benefit from aluminum. He can also help you make proper material selection for every building application.

Even though the supply of aluminum for building is limited now, the assistance of Reynolds Architectural Service is still unlimited. You'll find this service is an efficient and economical solution to your aluminum design problems. For complete information, call the Reynolds office listed under "Aluminum" in your classified telephone directory.

FREE BOOKLET!

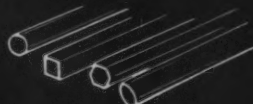
Send for your copy of Reynolds Architectural Folio today! A complete, up-to-date kit on architectural aluminum. In loose leaf form. Free when requested on business letterhead. Write to REYNOLDS METALS COMPANY, 2572 South Third Street, Louisville 1, Ky.



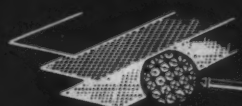
REYNOLDS ALUMINUM

MODERN DESIGN HAS ALUMINUM IN MIND

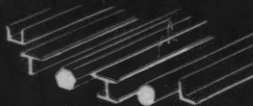
★ EXTRUDED SHAPES



★ TUBULAR PRODUCTS



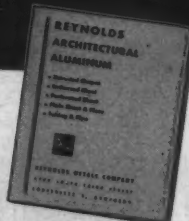
★ SHEET



★ STRUCTURALS



★ ORNAMENTAL CASTINGS



REQUIRED READING

(Continued from page 30)

select the schools of relatively recent construction that reflect his interpretation of such surroundings. Pestalozzi's philosophy appears to be the inspiration back of the author's thinking. It is heartwarming to find that these 200-year-old teachings are now bearing print. The principles that Roth accepts may well be reviewed by every architect planning for children's facilities. They include the following:

"Education at school is the continuation and extension of parental education at home.

"The classroom and school must afford the same sense of natural security and intimacy with which the child is familiar at home.

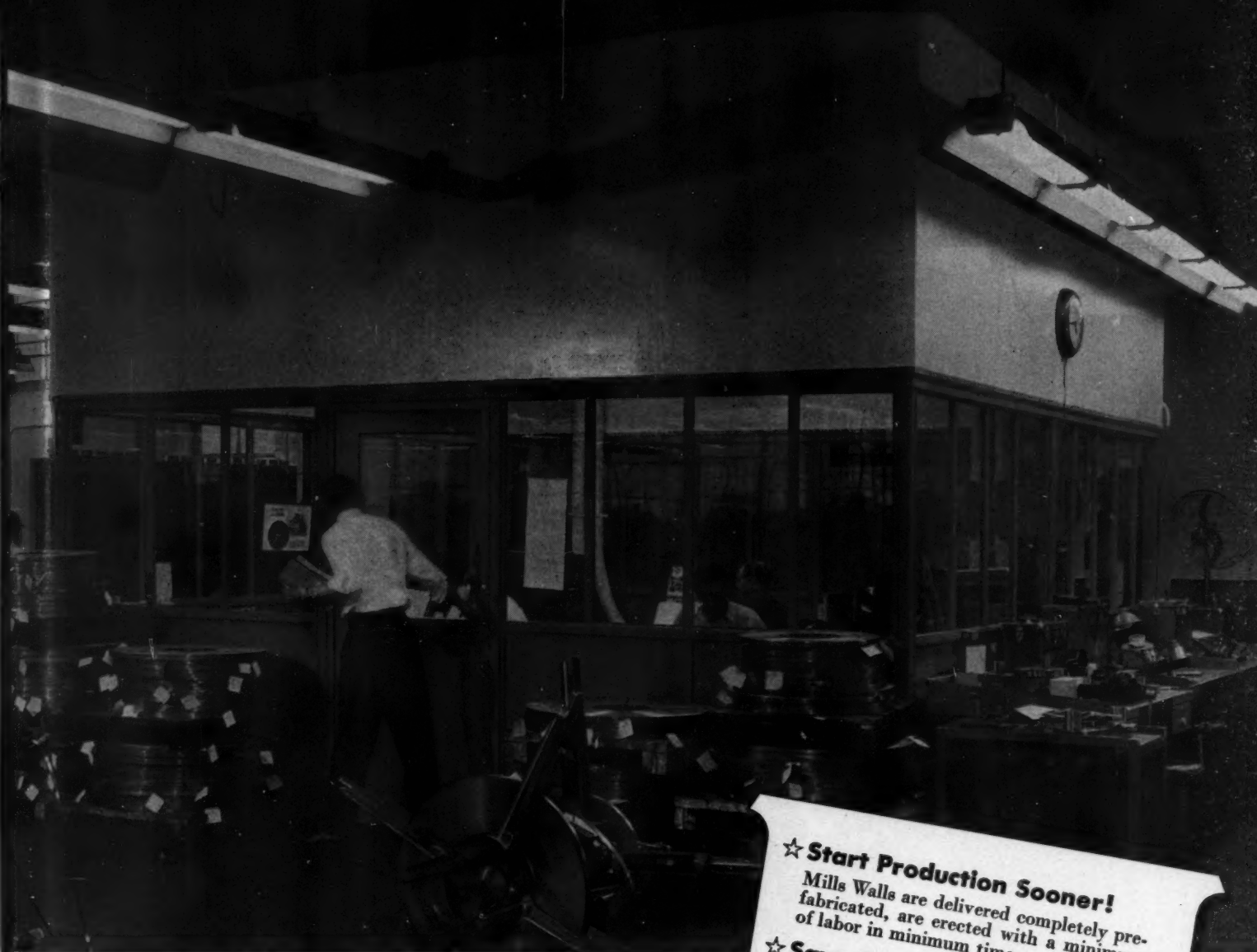
"The whole of the wider natural or man-made environment both of the school and the home forms a vital part of the child's education."

The selection of schools illustrated in the volume is unique. The spread by countries is Switzerland 7, Italy 1, U.S.A. 5, England 3, France 1, Holland 2, Sweden 1, Denmark 1. That is a narrow list for a book dedicated to the "Youth of All Countries." What about Hawaii, Brazil, Venezuela, Japan, Australia and scores of others? Many of them have schools of equal rank with those portrayed, for the "New School" movement has expanded world-wide.

The illustrations, however, are fine; the editorial material is interpretative and to the point. A service has been rendered here from which any architect planning a new school will gain much. The volume leans to generalization rather than detail but certainly most of us are concerned first with getting our generalizations firmly grounded.

The architect of the east, south and midwest in the U.S.A. will be annoyed to find little, or no, reference to schools of those areas. The author gives deserved emphasis to planning by Kump and Wills and Perkins. He makes an occasional misstep (as when he talks about natural lighting) — "In countries like California, for instance, the favorable climatic conditions have lead to a most simple and categorical solution: all the classrooms face north." Too bad if true! Even Californians do not think of themselves as a separate country. And California takes pride in having such a

(Continued on page 288)



MILLS MOVABLE WALLS

speed changeovers

FOR DEFENSE PRODUCTION

Mills Movable Metal Walls combine total flexibility with structural stability and solid construction. Perfected through more than 30 years of specialized experience, they are made in many different types to meet every plant operating requirement—

- to create island enclosures and offices for supervisory personnel
- to form tool cribs, stock rooms, laboratories, test rooms
- to segregate departmental operations

Mills Walls may be insulated and soundproofed as required. Their baked-on enamel finishes will not check or mar. They require no maintenance except ordinary washing at infrequent intervals.

MILLS *Movable* METAL WALLS



★ Start Production Sooner!

Mills Walls are delivered completely prefabricated, are erected with a minimum of labor in minimum time.

★ Save Production Time!

Mills Walls can be moved overnight to fit changes in factory layout with no interruption of normal production.

★ No Waste—All Parts Reused!

Every panel, unit and part can be used over and over again no matter how many times Mills Walls are moved.



For complete information write for Mills Catalog No. 51. Upon request we'll gladly send specific recommendations to meet your particular plant requirements.

THE MILLS COMPANY • 955 WAYSIDE ROAD • CLEVELAND 10, OHIO

how **MOSAIC** tile helped make

THE PACESETTER HOUSE OF 1951

a spectacular success

The editors of "House Beautiful" have pioneered some unusually practical uses for Mosaic Tile in their *Pacesetter House for 1951*.

Architect—Julius Gregory

Builder—Robert Chuckerow Construction Company

Tile Contractor—R. L. Leonardi, Inc.



The "House Beautiful" Pacesetter House of 1951, at Dobbs Ferry, New York.



IN THE OUTDO
red of the Mo
fectly with its
from the gard
mar its surf
weather will
floor may be
pervious to m

Floor—Gra

From these p
Mosaic Tile, a
—and used in
House—may
horizontal su

For example,
makes the fi
offers opport
planned for e
large surface
utility and ro
quired. For s
Faience Tile
equally sturd
probably be le

There are ot
see. Or, taki
from such ot
wall in Harva
pleted gradu
develop your
plan for Mos

In either case
is at your se

Center of at
is this truly
tinguished fl
which serves
between livin
Mosaic Faie
colors are the
Floor of livin
Mosaic, whic
the outdoor l

—firep

—floor Granit

THE MO

General Office

Member Tile Cou

York.

IN THE OUTDOOR living room the rich, earthy, red of the Mosaic Granitex Tile floor blends perfectly with its garden setting. Continuous traffic from the garden areas across this floor will never mar its surface or texture. Neither sun nor weather will change its permanent color. This floor may be hosed daily, for Mosaic Tile is impervious to moisture and stains.

Floor—Granitex Mosaic, Pattern No. 1779-A3.

BLUE FAIENCE TILE is an ever-beautiful finish on the sides of this combination serving bar and cooking peninsula. The hand-crafted appearance of Faience aids in blending the casual character of the living-dining area with the trim efficiency of this ultra-modern kitchen. Other types of Mosaic Tile are used on work counters, splash boards and walls for the utmost in easy cleaning and lasting beauty.

Peninsula—6" x 6" Faience color No. 2102.

MOSAIC TILE in this bathroom will turn in top performance for the life of the house because water and moisture will never effect the tile nor the manner in which it is set.

The vanity top and the floor are unglazed ceramics, an especially hard and durable type of Mosaic Tile, with permanent color throughout its wear-proof body.

Harmonitone wall tile color—No. 161.
Vanity top and floor color—No. 201 Velvetex.

From these pictures, you can visualize how Mosaic Tile, an extremely practical material—and used in every room in the *Pacesetter House*—may be used on both vertical and horizontal surfaces.

For example, Mosaic Faience Tile, which makes the fireplace wall so outstanding, offers opportunities of great interest if planned for elevator lobbies and for other large surfaces where everlasting beauty, utility and rock-bottom maintenance are required. For such uses, the cost of Mosaic Faience Tile will be no more than that of equally sturdy materials. *In fact, it will probably be less.*

There are other patterns you will want to see. Or, taking a clue from this job and from such other jobs as the ceramic Mosaic wall in Harvard University's recently completed graduate school, you may wish to develop your own design for the job you plan for Mosaic Tile.

In either case, Mosaic's Design Department is at your service. There is no obligation.

Center of attraction in *Pacesetter House* is this truly magnificent and really distinguished floor-to-ceiling fireplace wall, which serves also as a decorative partition between living and dining areas. Made of Mosaic Faience Tile, in a special design, its colors are there to stay; can't fade or bleach. Floor of living and dining area is Granitex Mosaic, which is also used on the floor of the outdoor living room.

—fireplace wall Mosaic Faience Tile, pattern No. 6056.

—floor Granitex Mosaic, pattern No. 1779-A3.

ON THE FLOOR at the windows in the master bedroom, Mosaic Faience Tile, in a delightful green, is used as an "indoor greenhouse." Here plants live in ideal atmosphere, on a floor that will never stain and which is so easy to clean.

Mosaic Faience Tile—Color No. 2164.

NO MATERIAL is more practical for window sills and window shelves. Here Mosaic Granitex are used as a broad under-window shelf—fine for plants, books, knick-knacks—an ideal combination of durability and decorative texture.

Shelf is Granitex Mosaic, color No. 1228.

THE DINING ROOM FLOOR is a continuation of the living room floor, a feature that contributes to the feeling of spaciousness which is apparent throughout the house.

Floor—Granitex Mosaic, Pattern No. 1779-A3.



THE MOSAIC TILE COMPANY

General Offices—Zanesville, Ohio

Member Tile Council of America

MOSAIC

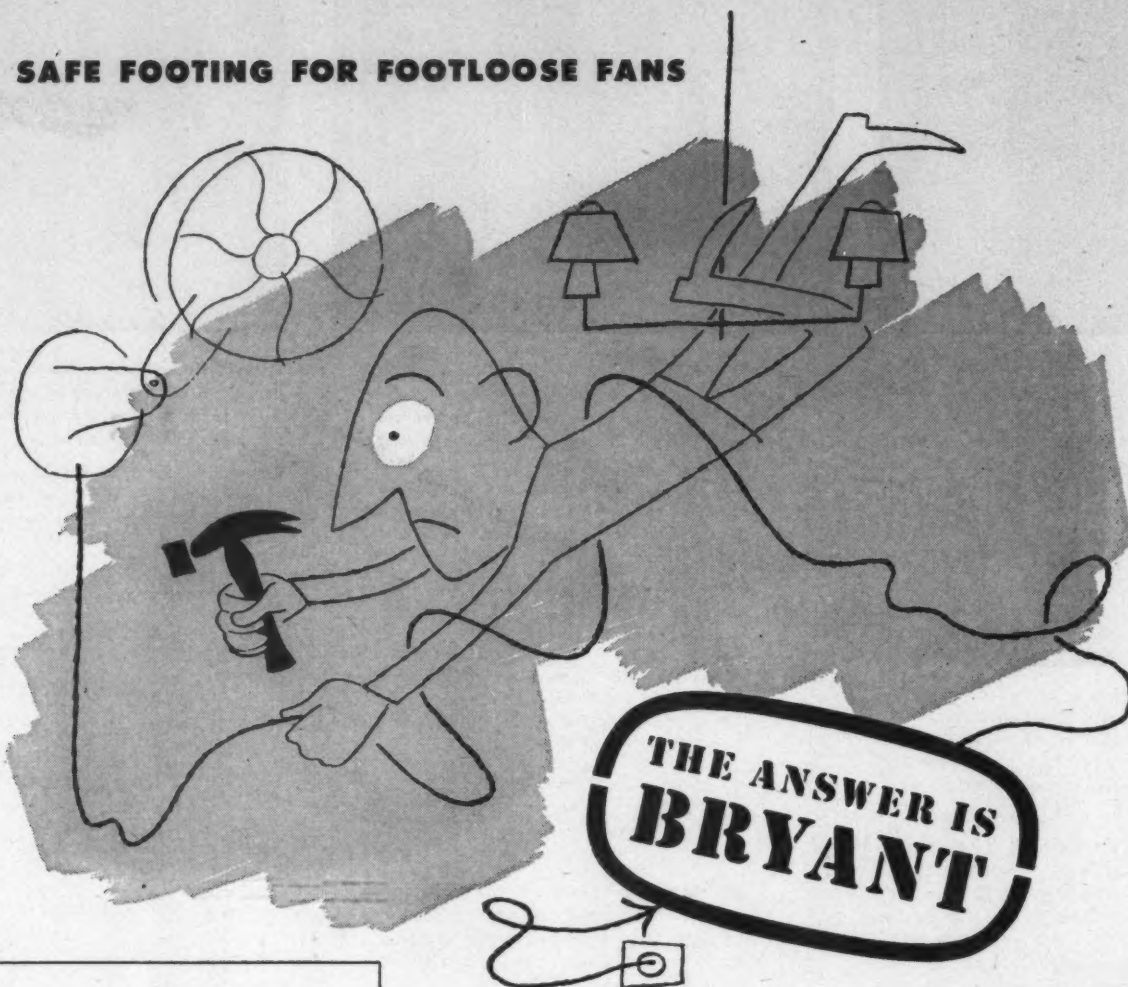
SHOWROOMS, OFFICES AND WAREHOUSES IN PRINCIPAL CITIES ACROSS THE NATION.

THE PACESETTER HOUSE is open to the public until July 1. We'd like you to see it if you are in the East. It's at Dobbs Ferry, just up the Hudson River from New York.

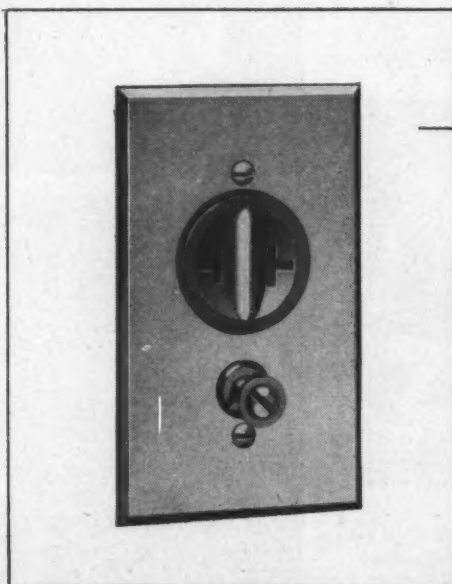
Mosaic Tile offers a great deal to modern, contemporary design. No other material is more functional. No other material provides so much in color, long life or freedom from maintenance.

The Mosaic Tile Company offers freely of its assistance to those architects, builders and owners who want to investigate our products for their jobs. Ask any Mosaic representative or write Dept. 30-3 The Mosaic Tile Company, Zanesville, Ohio.

SAFE FOOTING FOR FOOTLOOSE FANS



WITH NO. 3751 FAN HANGER OUTLET



Dangling, unsightly cords are no problem when you use the Bryant 3751 Fan Hanger Outlet. The entire weight of the fan, either fixed or oscillating, is supported by an adjustable stud entirely separated from the electrical connection. Fan cord may be shortened for neat appearance.

Cadmium-plated steel sub-plate supports the outlet covered by a brass flush plate. 15 amperes, 125 volts; 10 amperes, 250 volts.

Listed as Standard by Underwriters' Laboratories, Inc.

J-90855



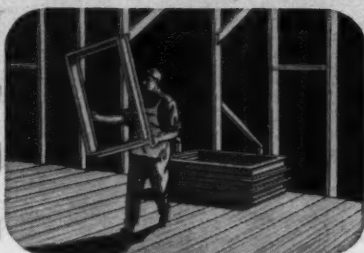
THE BRYANT ELECTRIC COMPANY

Bridgeport 2, Connecticut

CHICAGO • LOS ANGELES

SPECIFY BRYANT DEVICES FROM YOUR ELECTRICAL DISTRIBUTOR

Completely Installed
in
5 minutes!



Complete rainproof
ventilation control,
automatic positive
locking.
Pay for themselves
through fuel savings.
Sturdy tubular
construction.



No other window ever gave
you so much for so little

RUSCO



HOT-DIPPED GALVANIZED

PRIME WINDOW

(VERTICAL SLIDE)

- ★ FACTORY-PAINTED, COMPLETELY ASSEMBLED
... READY TO INSTALL
- ★ COMES COMPLETE WITH METAL OR WOOD
CASING (SURROUND)
- ★ DOUBLE GLASS, SCREEN & WEATHERSTRIPPING
IN ONE UNIT. (INSULATING SASH OPTIONAL)
- ★ A QUALITY PRODUCT COMPETITIVE WITH
LOWEST-PRICED UNITS

The Rusco Prime Window is the answer to each of the basic problems you face constantly. It gives you *unsurpassed quality at low cost*. It is made of *Hot-Dipped Galvanized Armco Ingot Iron Zincgrip*, solderized and finished with baked enamel. It *reduces installation cost and maintenance*. Rusco Prime Windows can be installed in far less time than ordinary window units. No field painting, no glazing, no hardware to attach, no on-the-job refitting. It's *complete* ... ready to install. Get the full facts today. Call your local Rusco Prime Window distributor or mail the coupon below.



Panels easily
removed from inside

The F. C. RUSSELL Co.

CLEVELAND 1, OHIO

Manufacturer of famous Rusco Armco-metal
Combination Windows, Combination Doors,
Porch Enclosures, Awnings and Jalousies.



THE F. C. RUSSELL COMPANY

Department 7-AR-61, Cleveland 1, Ohio

Gentlemen: Please send me catalog of informative data
and specifications on Rusco Prime Windows.

Name _____ Title _____

Company _____

Address _____

City _____ Zone _____ State _____



*Sold many
high-buttoned
shoes lately?*



NATURALLY, your customers aren't burning up the aisles to buy high-button shoes from you. And for the best reasons in the world... they're out of style.

Style... timeliness... is one of the most important things you have for sale. And smart styles deserve and need an attractive setting.

Now look at the carpet on your floor. Does it say, "This is a smart shop"? or "We're a pretty dowdy outfit"? Wouldn't your store be more inviting spread

with luscious-looking, sound-hushing carpets in harmonious shades?

If your carpet looks down-at-the-heel, here's what to do about it... today! Get in touch with Bigelow's Carpet Counsel. They'll be glad to advise you on exactly the best carpet suited to your needs. They know how to make every carpet dollar count... in good looks and years of rugged wear.

No charge for this service. Just write Bigelow Carpet Counsel, 140 Madison Avenue, N.Y.C. Your inquiry will be handled promptly.

BIGELOW Rugs and Carpets

140 MADISON AVENUE, N.Y.C.

Beauty you can see... quality you can trust... since 1825



30 Years *in the* Tall Timber



APMI

APMI SALES WAREHOUSES: 925 Toland St., San Francisco; 4814 Bengal St., Dallas; 4003 Coyle St., Houston; 4268 Utah St., St. Louis; 1026 Jay St., Charlotte, N. C.; Eugene and Willamina, Oregon.

The experience of Associated Plywood Mills dates from 1921. That is a long time in the relatively young plywood industry—long enough to mark APMI as one of the pioneers in the development and growth of this important building product.

The rich, rain forests of Oregon yield the fine Douglas fir that comes to APMI mills. These mills are among the largest and most modern in the plywood industry. They produce quality exterior and interior panels that are grademarked and trademarked.

APMI plywood is available in major building and distribution areas. Your inquiries are welcomed at our general offices, or at APMI sales warehouses.

ASSOCIATED
PLYWOOD MILLS, INC.

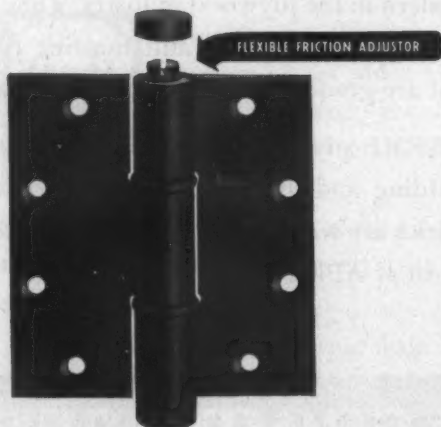
GENERAL OFFICES
EUGENE, OREGON



LICHTY
OF "GRIN AND BEAR IT"

*"These Slumber Bums won't make me miss
that 5:10 commuter AGAIN, now that*

EVERYTHING HINGES ON HAGER!*



HAGER No. 1147
EXTRA HEAVY FRICTION-TYPE BUTT HINGE
Available also with "Hospital-Type" rounded top ends
to prevent attaching ropes, wires, etc.

ELIMINATE NOISY, SLAMMING DOORS!

Exclusive flexible friction adjustor in the barrel of Hager Friction-Type Butts controls the friction exerted to just the desired degree. Proper adjustment of friction pressure prevents doors from slamming shut . . . holds them open to any desired ventilating position.

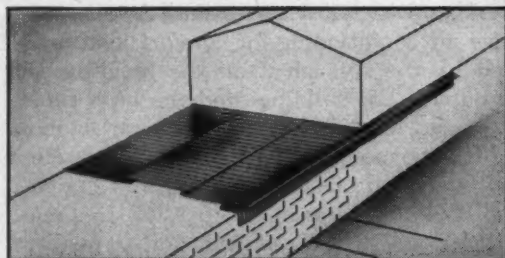
Removal of screw-type-plug at top end of butt provides quick access to the slotted pin. A few screw driver turns in one direction exert additional friction that retards the ease of door movement; several screw driver turns in the other direction eliminate friction . . . allow door to silently float back and forth.

Specify Hager Friction-Type Butts in hospitals or other buildings where quietness is either desirable or a necessity.

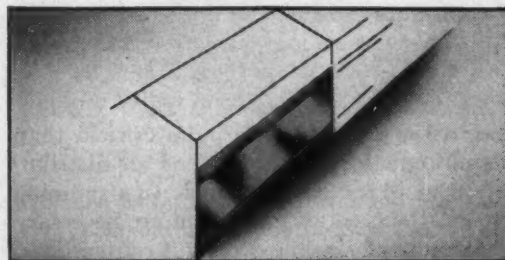
C. Hager & Sons Hinge Mfg. Co. • St. Louis, Mo.
Founded 1849—Every Hager Hinge Swings on 100 Years of Experience



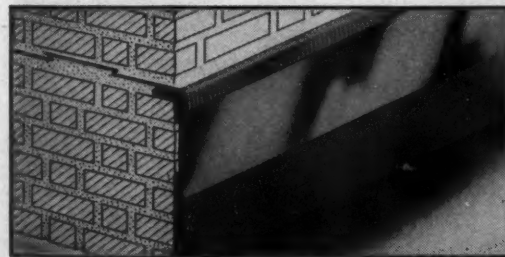
Announcing **THE NEW CHASE** **ONE-PIECE THRU-WALL COPPER FLASHING** *and* **CAP FLASHING RECEIVER**



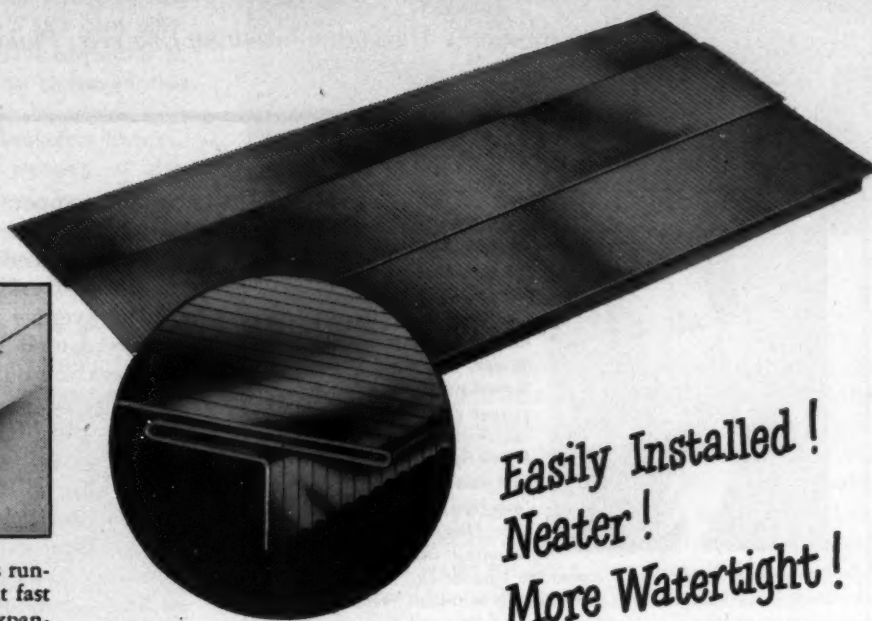
DRAINAGE CONTROL. Continuous channels running transversely through the wall permit fast drainage. This feature also provides for expansion and contraction.



MORE EFFICIENT CAP FLASHING. The added rigidity of cold rolled counter flashing eliminates the necessity of locking the cap flashing to the base flashing.



CAP FLASHING RECEIVER. Locks the cap flashing securely and permanently. The Cap Flashing Receiver also provides a guide to position the flashing during installation.



*Easily Installed!
Neater!
More Watertight!*

Here is a full weight copper thru-wall flashing (with a 3-way bond!) that combines an integral cap flashing receiver. The design* of this receiver permits the easy installation of cap flashing *after* the base flashing and roof are installed, without plugs or wedges to keep the receiver open. And since the cap flashing is never bent after it is inserted and locked in, it can be formed of *cold rolled* copper. The result: a neater, more watertight installation at reasonable cost.

Investigate the advantages of this outstanding development for flashing building walls. Send for free folder giving details and specifications.

* Patent Pending

Chase **BRASS & COPPER**

WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

• The Nation's Headquarters for Brass & Copper

Albany†	Cleveland	Kansas City, Mo.	New York	San Francisco
Atlanta	Dallas	Los Angeles	Philadelphia	Seattle
Baltimore	Denver†	Minneapolis	Pittsburgh	Waterbury
Boston	Detroit	Minneapolis	Providence	
Chicago	Houston†	Newark	Rochester†	(†sales office only)
Cincinnati	Indianapolis	New Orleans	St. Louis	

One of a series of papers prepared by leading authorities on air conditioning. The opinions and methods presented are those of the author and are not necessarily endorsed by the Du Pont Company. Reprints of this and other articles in the series may be had free upon request.

AIR CONDITIONING FOR THE MODERN TEXTILE MILL

By James Marshall, Consulting Engineer, Philadelphia, Pa.



JAMES MARSHALL—mechanical engineering graduate of the University of North Carolina—has specialized in air conditioning textile plants for many years. Served as Ass't. Chief Engineer for Bahnson Co., equipment manufacturers. Formerly in charge Philadelphia office of P. L. Davidson, consulting engineer. Has designed air conditioning installations for

Burlington Mills Corp., American Viscose Co., A. D. Juilliard Co., Fieldcrest Mills, Division of Marshall Field & Co., Hathaway Mfg. Co., NoMend Hosiery Co., and various other textile firms.

Modern textile mills cannot operate without some form of air conditioning. Basically, the present-day art of air conditioning owes as much to the textile industry as the industry owes to it, for it was from this industry that air conditioning developed.

Humidity and heat are common to every mill. In each plant the perfection of product that must be produced by the manufacturer to meet consumer demands is closely related to the amount of ventilation supplied, the extent of air filtration, and the use of refrigeration for cooling the air. This perfection is influenced by tangible improvements to assure uniformity, cleanliness, strength, weight, etc. Perhaps it may be credited to the fact that a happy worker is a better worker.

HUMIDITY

The advantages of good humidity control in all phases of textile production have been known for many years. In fact, it is doubtful if any other industry requires the uniform humidity demanded by textile processes. Proper humidity eliminates the generation of static electricity and its inherent problems, avoids brittleness, softens fibers, controls regain, improves strength of product, makes weight per unit length more uniform and provides many other advantages. It helps eliminate many of the causes for incipient fires.

VENTILATION

About fifteen or twenty years ago, it was not uncommon

to find temperatures of 110°F. or higher in spinning or twisting rooms. Unbearable working conditions resulted from the exceedingly high concentration of motor horsepower required by many textile operations. As a contrast to the average air conditioning for comfort load in industry caused by the sun effect on the building, the temperature outside the building, and the heat generated by the people working in the structure: in most textile operations the motors are responsible for the chief load. For rather accurate Btu summation, the engineer can multiply the motor horsepower by 2,545, the lighting load in kilowatts by 3,415, and then add 10 per cent to this total to take care of all other heat gains to be considered. Air conditioned rooms require a good supply of outdoor air, even during the winter months, to reduce inside temperatures to 80°F.

Not only does ventilation help lower inside temperature, but it helps dilute the dust and lint concentrations found in natural-fiber mills. Good ventilation has brought temperatures down to 90°F. in spinning rooms, 87°F. in rayon weave rooms and 82°F. in cotton weave rooms.

While some textile processes are more critical than others and require greater attention, good air distribution is important in all textile operations. In a spinning room, good ventilation and air movement are necessary to obtain a maximum of sensible cooling if refrigeration



Air conditioned slasher room in a New Bedford, Mass., textile mill. Note overhead ducts.

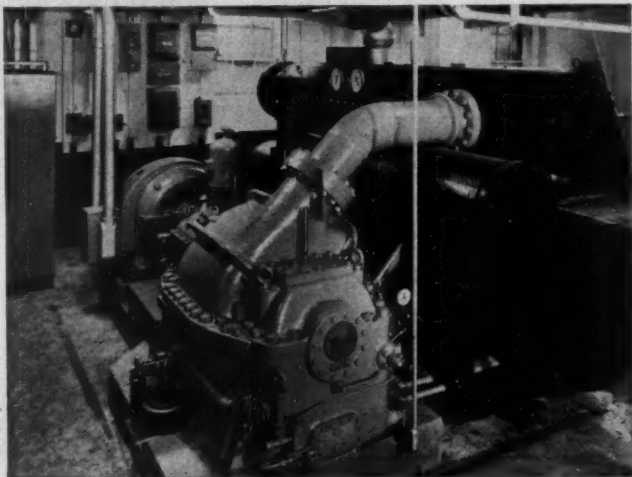
is not used. However, caution must be exercised as too high air velocities will cause yarn breakage. In carding, the slightest draft will break the sliver or web.

REFRIGERATION

Certain textile processes must have controlled temperatures the year round. For example, 60-gauge hosiery machines require on-the-nose temperature control so that these precision units will stay in adjustment and will provide continuous operation.

Nylon size rooms pose one of the most difficult air conditioning problems. Nylon is practically impervious to moisture, and a hygroscopic size is applied to the yarn so that the thread will be static-free for knitting and processing. The nylon is run through an aqueous size solution which is 95 per cent water and 5 per cent size. By controlling the temperature and relative humidity of the room and the speed with which the nylon moves through the size, the finished product is delivered with an acceptable coating. Temperature and relative humidity must be controlled to keep the viscosity of size solution constant.

In warping combination yarns for crepes, the relative humidity must be held below 45 to 50 per cent. In many cases, this calls for dehumidification and refrigeration.



A 237-ton York Turbo installed in an Eastern Pennsylvania mill. Photo courtesy York Corp.

Refrigeration has been well accepted in the rayon or synthetic end of the textile business. It is considered a must in producing blends of wool, cotton and rayon.

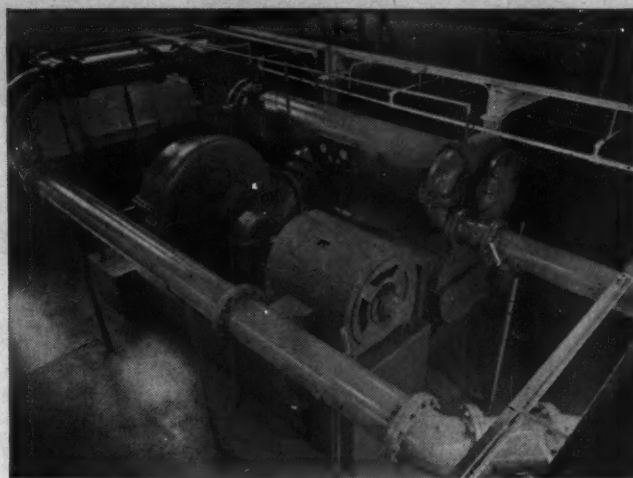
Cotton and woolen mills have found that their carding, combing and spinning rooms operate more efficiently due to refrigeration which promotes better control of humidities during humid summer weather. Before the use of refrigeration in these mills, it was not uncommon to have a card room practically shut down on highly humid days.

FILTERS

Conventional mechanical filters are practically worthless in cotton or woolen mills as they load up quicker than they can be cleaned. Attempts have been made to produce effective lint cleaners and at present two such units show promise. Electrostatic filters are used by some spinners of fine cotton and woolen yarns where it is important to have a clean yarn. Since the finished goods go through a scouring and bleaching process, not many of the cotton or woolen weavers require special air cleaning methods.

Rayon weavers must use the greatest precautions against dirt because, as compared with cotton, rayon

does not go through the same drastic finishing steps. Rayon mills are using large-size electrostatic filters.



Centrifugal compressor of 750-ton capacity in a New England textile mill.

BUILDING PROBLEMS

The highly humid conditions required in some processes have demanded particular design by both architect and engineer. Building deterioration due to condensation must be avoided. It is important that vapor seals of the right type be properly placed in conjunction with insulation to prevent damage to the structure through rotting, and to the product by dripping. Above all, the architect should see that water soluble salts are avoided in treating roof timbers. The coefficient of conductivity for every roof and wall should be studied to be sure that condensation will not form on the interior surface or within the structure. Preventing building damage due to condensation is a challenge to the architect.

As the reader will observe, Mr. Marshall is well qualified to write authoritatively on the subject of air conditioning for the textile industry. Other industries, too, can utilize air conditioning and refrigeration profitably and to good advantage.

To insure efficiency, economy and safety in the operation of industrial air conditioning and refrigeration systems, Mr. Marshall wholeheartedly concurs with other leading architects and consulting engineers in recommending equipment built to use "Freon" safe refrigerants.

"Freon" refrigerants—in addition to their inherent safety and nonflammable, nonexplosive characteristics—are scientifically manufactured, laboratory-tested to assure the uniform purity required in a refrigerant for long, satisfactory, trouble- and expense-free operation of modern air conditioning and refrigerating equipment. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Delaware.



BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

FREON SAFE REFRIGERANTS



"Freon" is Du Pont's registered trade-mark for its fluorinated hydrocarbon refrigerants



Here's **ADDED** proof

of the Great Acceptability of
BRIGGS BEAUTYWARE!
first choice in
NEW YORK
HOUSING PROGRAM!

The biggest builders don't take chances! They use equipment they can *depend* on—equipment they *know* for quality and durability! That's why Briggs Beautyware is first choice among leading project builders from coast to coast!

In the mammoth New York Housing Program, for instance, Briggs Beautyware has been installed in 5,123 apartments since 1948. It has been specified for a total of 11,753 apartments now in the construction or planning stage. This is just *one* of *many* important building projects where Briggs Beautyware has been used!

Whether yours is a big job or a small one—*follow the leaders!* Install modern, appealing Briggs Beautyware plumbing fixtures and know you are using the best!

BRIGGS MANUFACTURING COMPANY
3001 MILLER AVE., DETROIT 11, MICHIGAN

**BRIGGS BEAUTYWARE IS BEING USED
IN ALL THESE N. Y. HOUSING PROJECTS!**

- Amsterdam Houses
- Jacob Riis Houses
- South Beach Houses
- Todt Hill Houses
- Boulevard Houses
- Dyckman Houses
- Ravenswood Houses
- Astoria Houses
- Sedgewick Houses
- St. Nicholas Houses
- Stephen Foster Houses
- Lexington Houses
- Morrisania Houses
- Woodside Houses

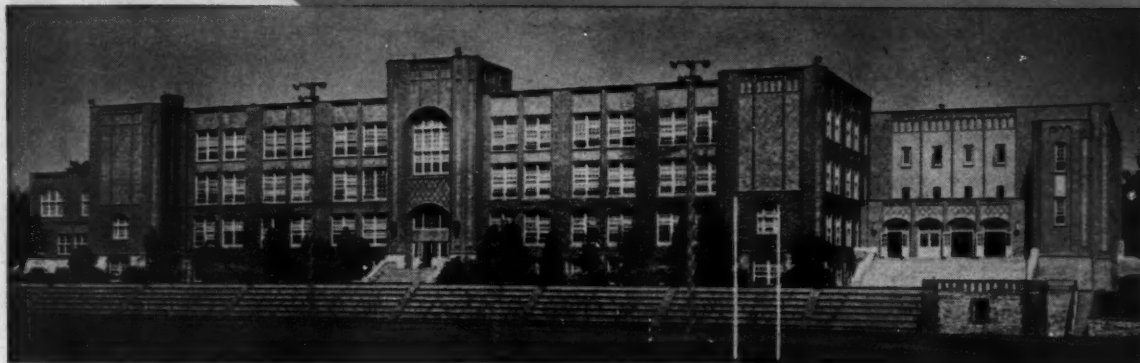
© 1951


BRIGGS
Beautyware



PLUMBING FIXTURES


International Show Room—101 Park Ave., New York City


Modern Schools Demand the Safety, Convenience and Efficiency of ELECTRICAL PRODUCTS!




Maplewood, Mo., High School completely equipped with  products including Modified Type Pre-selective Stage Control Switchboard with auto transformer dimmers. William B. Ittner, Inc., architects and engineers.

That is why more and more architects and engineers specify "Frank Adam." These authorities have found from experience that  is a mark of Quality—that  products are not only dependable and long-lasting, but they measure up to the highest standards of safety, convenience and efficiency—and they are economical, too!

Frank Adam's prestige in light and power distribution equipment is not restricted to schools and other institutions. In commerce and industry,  products are serving a big need—and serving it well—as evidenced by many outstanding installations in all parts of the country.

For safe, dependable, Quality products insist on this Trade Mark .



For over 58 years, Frank Adam has specialized in Stage Lighting Control Systems for theaters and auditoriums. The  Stage Switchboard illustrated, with auto-transformer dimmers, has been found ideal for school and college auditoriums, and small theaters.



Frank Adam Electric Co.

P. O. BOX 357 ST. LOUIS 3, MO.

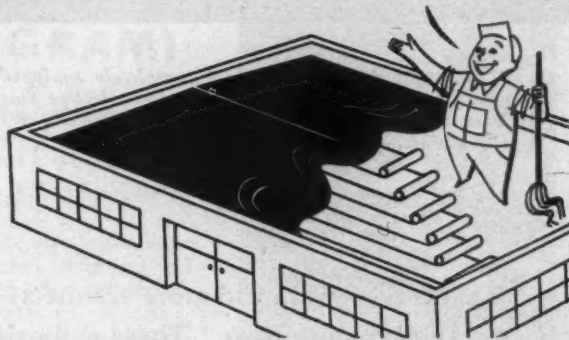
Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

Our 60th Year

"Look! No slag or gravel!
It's smooth-surfaced."

"It's a Johns-Manville
Asbestos Built-Up Roof!"

"And Asbestile®
Flashings
for added
protection!"



Yes—it's a Flexstone* Roof

Each ply is a flexible covering of stone!

The secret of a Johns-Manville Flexstone Built-Up Roof is in the *felts*. They're made of fireproof, rotproof, weatherproof, enduring *asbestos*.

Flexstone Built-Up Roofs won't dry out from the sun . . . need no periodic coating. They're *smooth-surfaced*, too—permit thorough drainage, make any damage easy to locate and repair. They are engineered to each job . . . applied only by J-M *Approved Roofers*. J-M Asbestos felts are perforated to make application easier, give a smoother job, conform better to roof decks.

*Reg. U. S. Pat. Off.

For your added protection, the Johns-Manville Asbestile® System of Flashing insures proper treatment of all critical areas. Asbestile is a heavy-bodied plastic cement designed for use with asbestos flashing felts to give thorough watertightness. As it sets, Asbestile becomes hard and forms an integral part of the wall itself.

Send for brochure BU-51A. Contains complete specifications for Flexstone Roofs and Asbestile Flashing System. Johns-Manville, Box 158, Dept. AR, N.Y. 16, N.Y.



Made of ASBESTOS

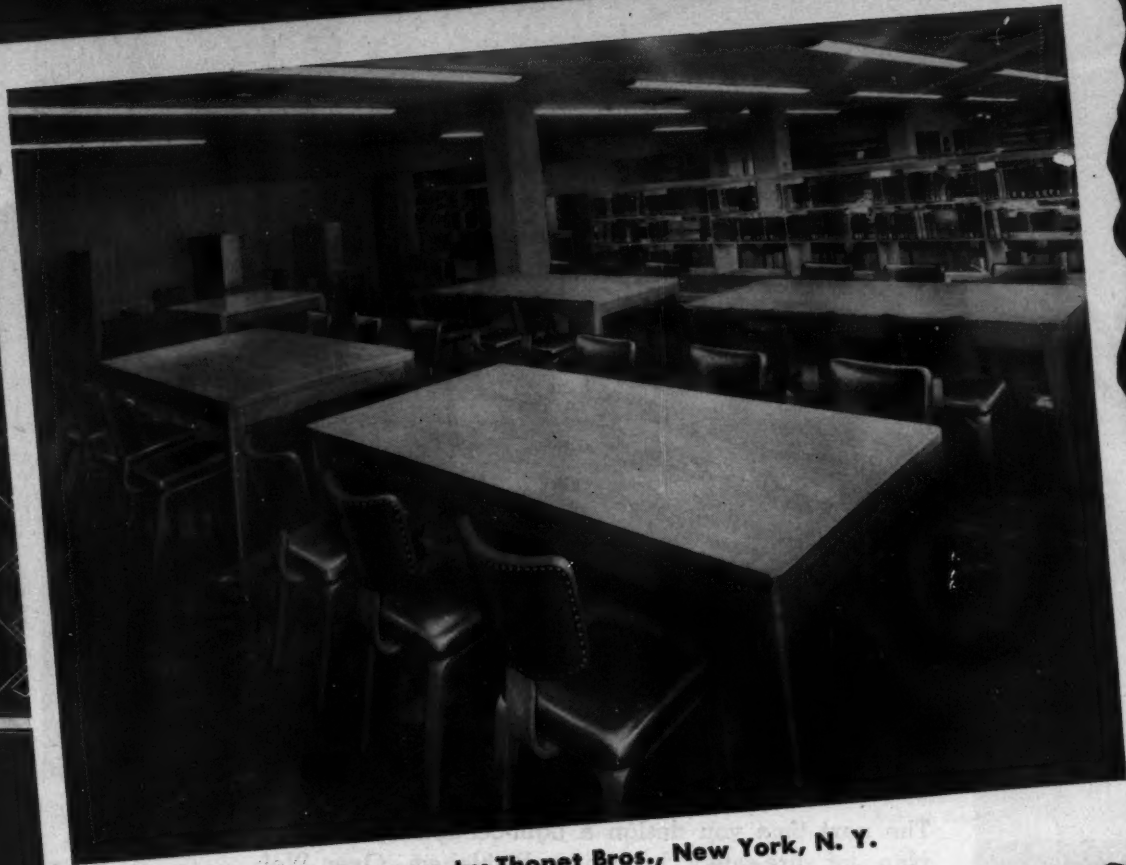
Johns-Manville FLEXSTONE® Built-Up Roofs

ASBESTOS CORRUGATED TRANSITE® • ACOUSTICAL CEILINGS

DECORATIVE FLOORS • MOVABLE WALLS • ETC.

Masland Duran

MAIN DINING ROOM



Furniture by Thonet Bros., New York, N. Y.

MEN'S LOUNGE

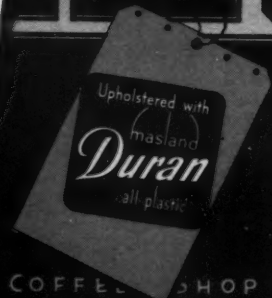
LOBBY

LADIES' LOUNGE

Lovely harmonizing colors... smart patterns and finishes... unlimited decorating possibilities... all yours with Masland Duran. In room settings of every style, in all kinds of commercial installations, Masland Duran's practical beauty needs only a damp cloth to keep it clean.

SEE DURAN IN *Sealtuft* DESIGNS

Only MASLAND makes DURAN.
This tag is your protection.



GRILLE

COFFEE SHOP

Plan for FIRE-SAFETY



The next time you design a light-occupancy building, plan for fire-safety by using Bethlehem Open-Web Steel Joists.

Bethlehem Open-Web Joists promote fire-safety in light-occupancy structures because, when used with concrete floor slab and plaster ceiling, they provide a floor construction which is incombustible. This type of floor is also economical, for it stays firm for the life of the structure.

You also get other worthwhile advantages when you combine Bethlehem Open-Web Joists, concrete floors and plaster ceilings. For example, floors constructed in this way are rigid, and permanently free from shrinkage. Cracks can't form between floor and baseboard. Besides, these steel joists are vibration-resistant, and immune to attack by rodents.

Bethlehem Open-Web Joists reach the job plainly marked, ready for placing. They are strong enough to do the job, yet light enough to be handled by two men. Moreover, they simplify the work of other trades, as pipes and wiring can be run through the open webs of the joists. They can also be used effectively as roof supports.

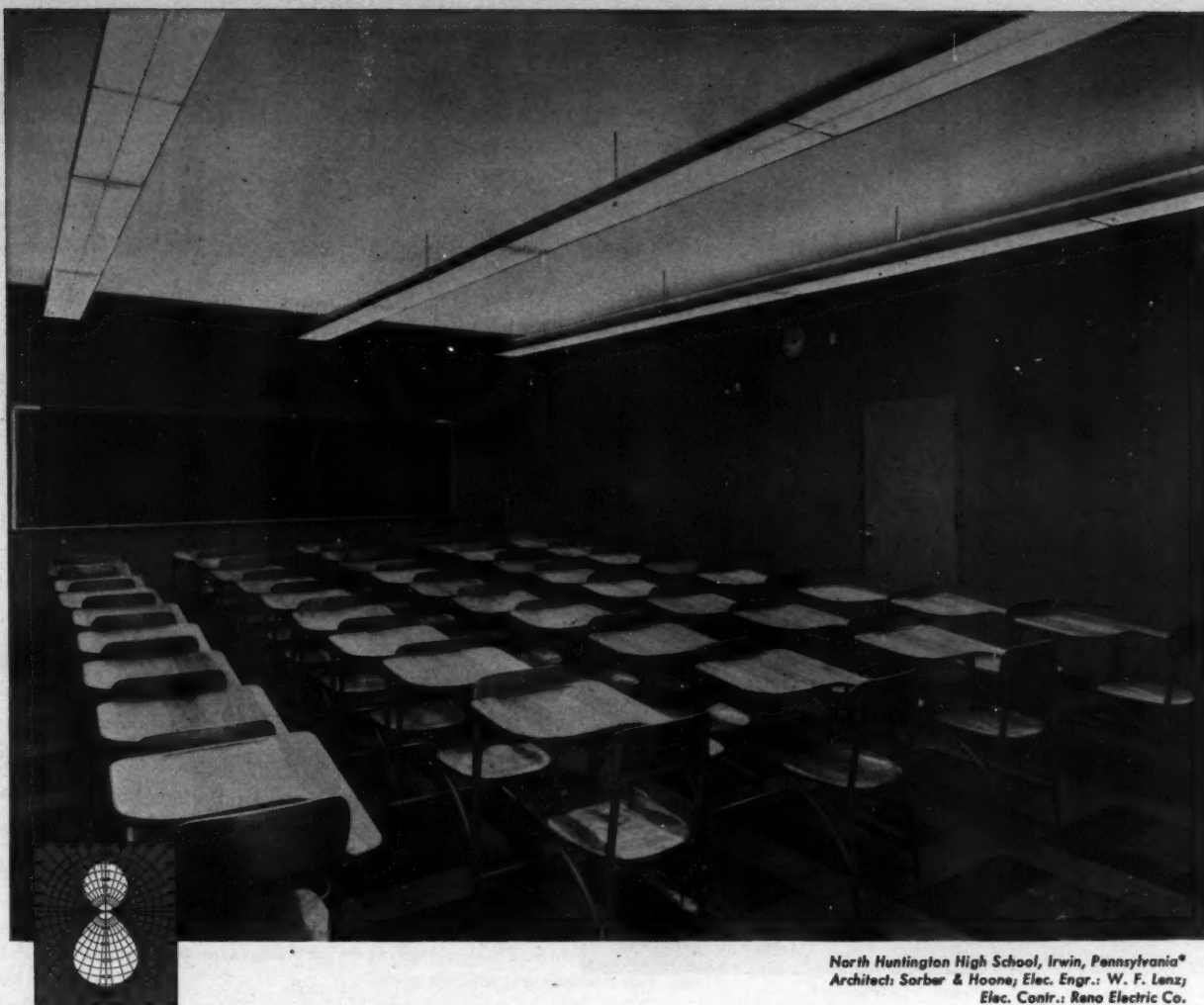
For a copy of our illustrated joist catalog, write to us at Bethlehem, Pa.

BETHLEHEM STEEL COMPANY, BETHLEHEM, PA.

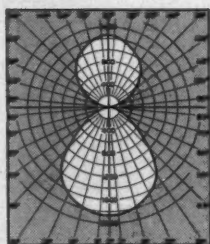
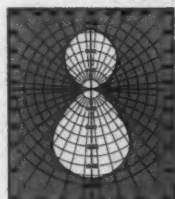
On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation

★ **BETHLEHEM OPEN-WEB JOISTS** ★





North Huntingdon High School, Irwin, Pennsylvania*
 Architect: Sorber & Hoone; Elec. Engr.: W. F. Lenz;
 Elec. Contr.: Reno Electric Co.



*Utilizing "Monroe" 2-lamp Slim-line Units mounted end-to-end; 25/35° shielding; 83% efficiency.

LIGHT *to tell your Story...*

with **PITTSBURGH PERMAFLECTOR LIGHTING EQUIPMENT**

Unlimited application and design possibilities make Pittsburgh Permalector the lighting equipment selected by architects and designers. To flexibility—add complete selection, low initial cost, ease of installation and maintenance and *continued* efficiency in service. You get a combination that lets you dovetail Pittsburgh Permalector Lighting Equipment into your plans and budgets. See for yourself—get the useful booklet, "Planned Lighting For Modern Schools." It will help you evaluate the types of fluorescent and incandescent units best for school lighting. Write for your copy today.



PITTSBURGH REFLECTOR COMPANY

402 OLIVER BUILDING PITTSBURGH 22, PENNSYLVANIA

Permalector Lighting Engineers in All Principal Cities

“My friends wish a G-E Kitchen

Mrs. Edwin B. Fisher of Hillsdale, N. J., tells her builder,
Mr. Herbert M. Tandy, what she particularly likes
about the house she bought from him last year!



“I dropped by to get your comments about the house,” says Mr. Tandy.

“You’ve lived in your new house for almost a year now, and I feel that your reactions would be mighty helpful in planning additional houses in our development.”

“Be glad to, Mr. Tandy,” says Mrs. Fisher. “Matter of fact, *you* should have been here last evening when some of our friends—who just bought a house—told us they wished *they* had known more about this development before they bought elsewhere!”



“Not only were our friends impressed with the house, but their eyes popped when I told them that our wonderful General

Electric Kitchen cost us only \$3.80 a month extra—because the cost of it was included as a part of our regular mortgage!”

they had for \$3.80 a month!"



"It just so happens that I'm doing a bit of baking, Mr. Tandy. Look at this . . . baked evenly all around! My, this General Electric Range heats up so quickly, and gives such even heat!"

"That looks like a mighty fine cake, Mrs. Fisher!" says Mr. Tandy.



"While you're here, let me show you how efficient my General Electric Dishwasher is! See, the cups and glasses are perfectly clean! I do my dishes—breakfast, lunch and supper—once a day now!"

"Yes, most people are enthusiastic about this time-saver," Mr. Tandy says.



"You know how it is with a small child in the family.

"Edwin can certainly soil clothes. But I don't mind, really. This General Electric Automatic Washer does get things so nice and clean and dry. I use my G-E almost every day!"



"... and another thing I like about my house, Mr. Tandy, is my spacious G-E Refrigerator."

"Well, I take it, Mrs. Fisher, that the thing you like most about your house is the G-E Kitchen-Laundry . . . and you've got lots of neighbors who agree with you!"

Mr. Herbert Tandy and his associates, Messrs. Norman Tandy and Alan D. Allen, are builders of the Saddle-Wood Hills Development in Hillsdale, N. J. Mr. Tandy says:

"We installed G-E appliances in our houses because we wanted *quality* equipment . . . and the public knows that G-E stands for fine equipment!"



Won national award

The National Association of Home Builders, in presenting a national award to Saddle-Wood Hills, stated:

"The projects presented . . . were a great credit to the home building industry. Sound planning, ingenuity, and knowledge of market appeal were all in evidence."

Home Bureau, General Electric Company, Bridgeport 2, Conn.

You can put your confidence in—

GENERAL  ELECTRIC



When it's

"FULL SPEED AHEAD..."

let Barrett **SPEED**
your roofing jobs!

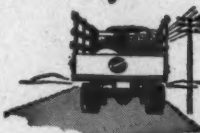
As American industry moves into full speed on our vast armament program, needs will often suddenly be discovered for new roofs. New roofs for old plants, as well as roofs for new plants.

You can turn to Barrett with absolute confidence when you need the world's longest-lasting built-up roof in the shortest possible time! Barrett *speeds* your roofing jobs in 4 important ways:

1 Barrett speeds specifications. Ready at hand are Barrett time-tested, scientifically calculated application specifications for almost every built-up roofing problem. These are so foolproof that Barrett Specification* Roofs can be bonded for 20 years, and generally last much longer. Approved by the National Board of Fire Underwriters—Class A.



2 Barrett speeds deliveries. Strategically located supply points enable us to rush materials to your Barrett roofing contractor, and to your job when they are needed.



3 Barrett speeds application. Barrett does not have to rely on outside sources of supply for roofing pitch and felt. Because Barrett Specification* pitch and felt are made in our own factories, production can be controlled to meet demands. Your roofer can be sure that he will get the materials he wants when he needs them. No time lost on the job! Moreover, he can be sure that these materials will be of uniform high quality.



4 Barrett speeds you the finest possible roof. Expert roofers make for fast jobs. Barrett Approved Roofers have had many years of practical experience, plus well-trained man-power, plus Barrett engineering help, to assure you the finest possible roofing job in the shortest possible time.



But don't wait until you're up against it before ordering necessary roofing work. Call in a Barrett Approved Roofer today, or write us.

THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

36th St. & Gray's Ferry Ave., Philadelphia 46, Pa.
205 W. Wacker Drive, Chicago 6, Ill.

1327 Erie Street, Birmingham 8, Alabama

In Canada: The Barrett Company, Ltd., 5551 St. Hubert St., Montreal, P. Q.

*Reg. U. S. Pat. Off.



Chose
Baltim
Friend
Intern
Airpor

N





Chosen for
Baltimore's New
Friendship
International
Airport



NEVAMAR[®] *high-pressure laminates*



City planners were looking to the future when they built the world's largest, most modern airport. It was only natural that they should select NEVAMAR laminates to provide lasting surfaces throughout the vast new terminal building. Beauty, cleanliness, efficiency, ease of maintenance—these were factors that consulting engineers took into consideration. NEVAMAR is the high-pressure laminate that has triumphed over every laboratory and use test to which it has been subjected. Its wide range of colors and patterns, its versatility and ease of handling make it the ideal surfacing material for interiors of every type. Get all the facts about NEVAMAR now and see why it has a place in your specifications.

This is
NEVAMAR[®]

a high-pressure laminate surface, designed for long life and lasting beauty. Nevamar is not affected by grease, alcohol, fruit acids, ammonia, bleach, ink or similar substances. It will not craze, crack or peel. Nevamar is resistant to cigarette burns and withstands boiling water. Nevamar may be cleaned with soap and water.

● To keep your Nevamar surface beautiful... Don't use abrasive cleaners. A protective pad should be used beneath hot vessels, electric toasters and similar appliances. Don't use your Nevamar surface as a cutting or chopping board.



The NATIONAL Plastic Products Company
ODENTON, MD. • NEW YORK, N. Y. • LOS ANGELES, CAL.

NEVAMAR high-pressure laminates conform to NEMA specifications.



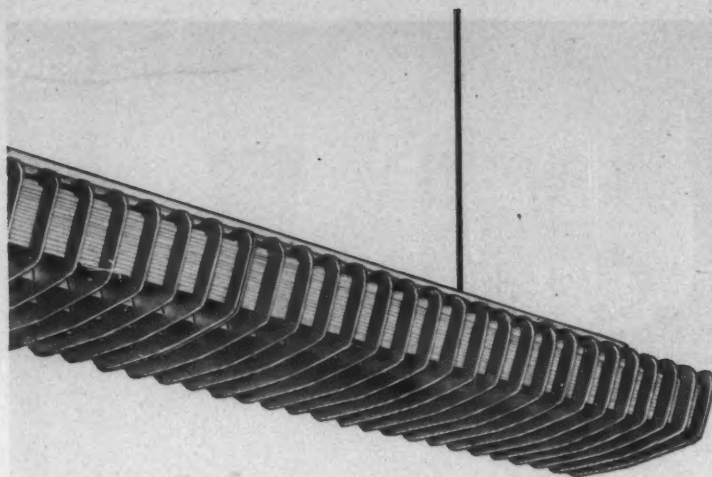
**WRITE FOR THIS
FREE BOOKLET**

See actual photographs of numerous applications that suggest how you can use NEVAMAR.

SOLE DISTRIBUTORS: THE NEVAMAR COMPANY, BALTIMORE-30, MD.

 **The NATIONAL Plastic Products Company**

Manufacturers of Nevamar High-Pressure Laminates • SARAN FILAMENTS • Wynene Molded Products
ODENTON, MARYLAND • NEW YORK: EMPIRE STATE BUILDING • LOS ANGELES: 2232 EAST 37TH STREET



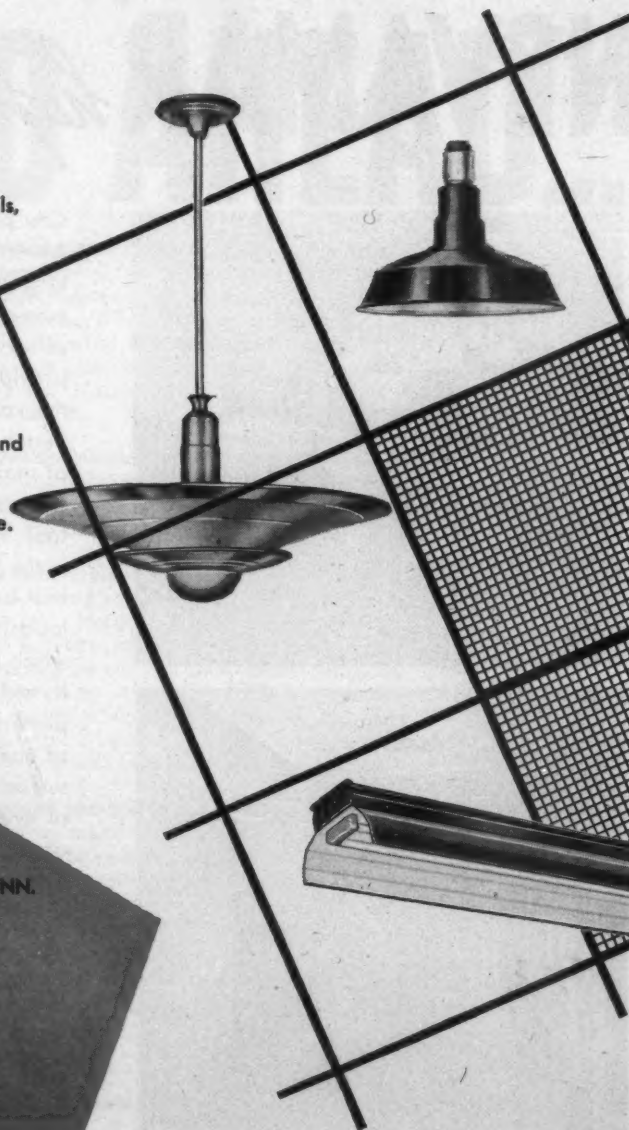
THERE'S ONLY ONE WAY TO GET COMPLETE LIGHTING SATISFACTION

Only one way — **QUALITY EQUIPMENT**. It is the economical way, too. That is why it is best to specify Miller lighting equipment. It is built on an 8-Point standard of quality construction, with engineering features that minimize cost of installation and maintenance.

Thousands of installations, in stores, offices, schools, factories and public buildings, have proven the enduring **QUALITY** of Miller lighting equipment, and its **LOW OVERALL COST** — cost of equipment, installation and maintenance — the important point to be considered in planning lighting.

For complete lighting satisfaction, **SPECIFY MILLER** — one source of supply for **QUALITY** equipment for the best use of Fluorescent, Incandescent, and Mercury-vapor lighting. Developed on a background for 107 years pioneering and progress in Good Lighting.

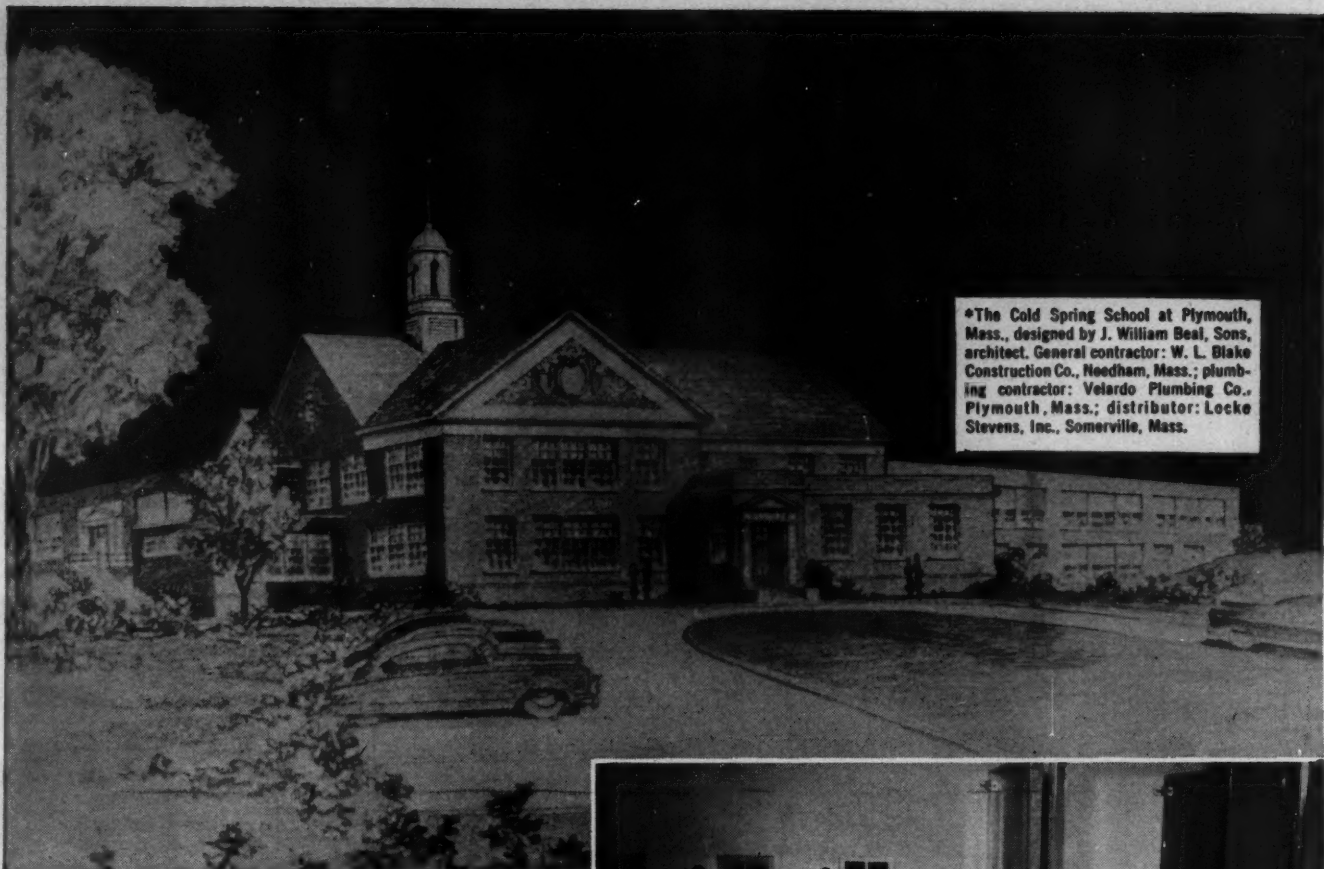
Miller field engineers and distributors are conveniently located for nation-wide service.



THE miller COMPANY MERIDEN, CONN.
SINCE 1844

ILLUMINATING DIVISION: Fluorescent, Incandescent, Mercury Lighting Equipment
HEATING PRODUCTS DIVISION: Domestic Oil Burners and Liquid Fuel Devices
ROLLING MILL DIVISION: Phosphor Bronze and Brass in Sheets, Strips and Rolls

Heating & Hot Water



*The Cold Spring School at Plymouth, Mass., designed by J. William Beal, Sons, architect. General contractor: W. L. Blake Construction Co., Needham, Mass.; plumbing contractor: Velardo Plumbing Co., Plymouth, Mass.; distributor: Locke Stevens, Inc., Somerville, Mass.

... **Richmond vitreous china** plumbing fixtures have been chosen for quality, low-cost operation and easy sanitary maintenance by the School Board, the architect and the builder. Attractive Richmond vitreous china is acid-resisting and long lasting.

By providing better sanitation, Richmond fixtures promote better health. Always remember—when quality and economy count...count on Richmond.



Section of Cold Spring School wash room showing the batteries of Richmond Delton Washout Urinals (Plate No. G-353) and the Richmond Spaulding Syphon Jet Water Closets (Plate No. G-220).



RICHMOND

RICHMOND RADIATOR CO.—AFFILIATE OF REYNOLDS METALS CO.

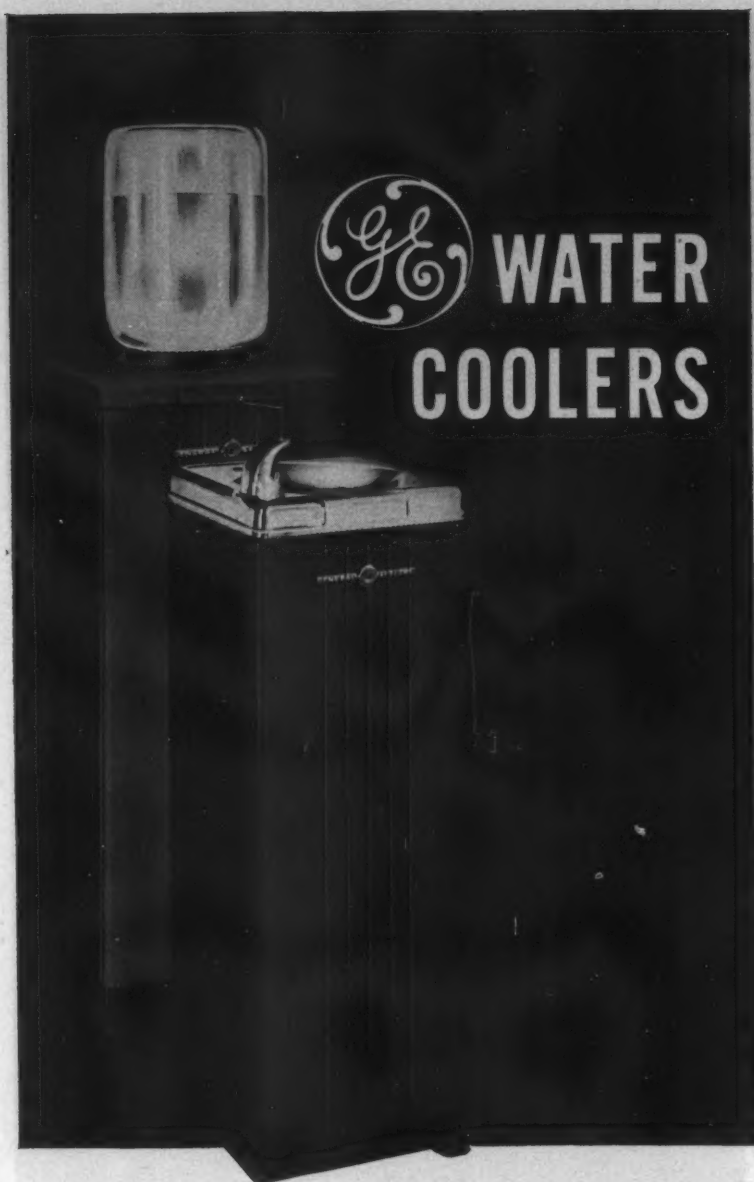


Richmond Radiator Company
19 East 47th Street, New York 17, N. Y.
Please send me additional information and literature on the Richmond line of fine plumbing fixtures. No obligation, of course.

Name.....

Company.....

Address.....



GE WATER COOLERS

WATER AT WORK ...can save you money! Cool, convenient, sanitary drinking water makes your payroll dollar worth more by improving employee efficiency and morale...increases sales by building customer goodwill.

You will like the handsome, new G-E Water Coolers. They are so economical—less than three cents a day average operating cost. You can be assured of their dependability—they're produced with the engineering skill and design experience of more than 25 years in refrigeration research and manufacture. You can choose from four popular pressure models and the bottle cooler, too.

FREE 24-PAGE BOOK!

General Electric Company, Section AR-8
Air Conditioning Department
Bloomfield, New Jersey

Please send without obligation to me the fully illustrated book, "Water at Work."

NAME.....

COMPANY.....

ADDRESS.....

CITY.....ZONE.....STATE.....

Ask your local G-E Dealer for advice on your water cooler requirements. Look for his name in the classified pages of your telephone book.



for offices

G-E Water Coolers, with their handsome styling, cool green finish, gleaming top, blend with modern office furniture.



for factories

G-E Water Coolers are ruggedly constructed to operate economically even under the most difficult conditions. They're built for long life, economy in operation, and dependability.



for retail stores

G-E Water Coolers, conveniently located, invite a welcome pause for a refreshing, cool drink. Customers will linger longer, be more favorably disposed to buy.

You can put your confidence in—

GENERAL  ELECTRIC

• The *ULTIMATE* in MODERN HOME BUILDING

TRULINE

Residential or Commercial

Aluminum DOORS and JAMBS

- **ECONOMY**
- **BEAUTY**
- **DURABILITY**

Architects, builders and home owners agree on TRULINE Aluminum Doors and Jambs. TRULINE door and jamb assemblies require only one-tenth the installation time of ordinary wood doors. Once installed they offer a lifetime of beauty, durability and economy. They will not warp. They need no paint or maintenance. (They can be painted any color to fit a particular decorative scheme, but their natural smooth satin finish enriches the modern home.) They offer insulation, fire resistance and sound-proofing.



The entire line of TRULINE Aluminum Doors and Jambs is priced competitively to ordinary wood doors and jambs. When such factors as installation time, paint, and maintenance are considered, the advantage of specifying TRULINE is at once apparent.

• • •
*Some distributorships still available.
 Write, wire or phone for information.*

WEATHER-VANE Corporation

611 S. FLOWER STREET, BURBANK, CALIFORNIA



PATENTS APPLIED FOR

CHECK THESE FEATURES

- **Fast, easy installation**
- **Freedom from warp**
- **Fire resistance**
- **Insulation**
- **Sound-proofing**
- **Lifetime Economy**

PREFERRED
ALLENCO
 Fire-Equipment
MORE THAN
3 TO 2

Information Institute recently asked 2836 Architects, Consulting Engineers, Contractors and Plumbing Wholesalers to name the brand of fire-protection equipment they prefer.

ALLEN
 was noted by more than 3 for every 2 noting the next brand.

ALLEN
 was noted by 40% more than all other brands together.
 Details will be supplied on request.

SPECIFY
ALLENCO
TO BE SURE



A. I. A. file 29e2—Allen on Interior Fire-Protection—write for extra copies today.

Established 1887
W. D. ALLEN
 Manufacturing Co.
 CHICAGO 6 NEW YORK 7

What Part of a Building Can You Safely NEGLECT?

Of course no one would purposely neglect *any* part. But people naturally concentrate most on parts that cost most. Some may cost very little. Yet, because they require detailed specifications to be *right* or affect the building's function far beyond their cost-proportion, such parts warrant more attention than would at first thought seem necessary. One example is interior fire-protection equipment.

Depending on the intended use of the building, local codes and other requirements, fire-equipment may range from handy extinguishers to independent water systems with sprinklers and/or hose. Most include cabinets or other installations which are part of the actual construction. Many involve special valves, fittings, hydrants, standpipes, manifolds, etc.

Aside from other considerations, almost every such part must meet detailed requirements of local fire regulations. Because the codes differ, even "standard" units must be selected from several variants. The most prominent line of cabinets, to name only one part involved, necessarily provides for nearly 200 variations in dimensions and materials and design. Clearly, the right equipment cannot be specified glibly.

How Important is Fire-Equipment?

Functionally, of course, it is downright essential. Like a safety valve, it may serve without actually operating; when its emergency arises, it *must* operate successfully. Incidentally, it affects insurance rates and income of a warehouse, for example, and several aspects of any building's service.

Otherwise, fire-equipment is important as it affects design and construction and complexion of the structure. Recessed cabinets require special care in wall construction but add to useable space. Face-flush Hydrants and Siamese may

involve extra detail but avoid ugly and personally injurious projections. Many other and more fundamental examples suggest that fire-equipment *is* important, deserves more attention than its minor cost would indicate.

Is All Fire-Equipment "Equal"?

Equality depends on adequacy of the specifications. In valves, couplings, reducers, etc., there may be little difference between brands in *operation*. So with products bearing Underwriters' or Factory Mutuals approval. Other products, such as hose racks, may vary widely in speed and flexibility of action.

But there are other fields where important differences arise. Take two brands of cabinets, each having the same general dimensions and type of material and design. One will fit right in the assigned recess; the other, due to lighter gauge metal or looser joints, will require re-shaping on the job—perhaps even buckle—at best add cost and delay.

Connections may be found threaded just off specification, impossible to install. Replacement holds up the job. (One manufacturer even checks "specs" against appropriate code requirements, often saves you considerably.) Delivery of one brand may be *promised* sooner than another. But which would actually *be* delivered when you want it? One brand is *definitely preferred* over all others

How Can One Get Details, Simply?

Of the 10-12 leading manufacturers in the fire-equipment field, two make the bulk of non-sprinkler installation equipment. One is noted for its complete line, long record (64 years) of reliability, thorough and concise catalog (A.I.A. file 29e2), and nationwide consulting service. For conference or catalog, write W. D. Allen Manufacturing Co. in Chicago.

(Advertisement)

look!

...it must be a

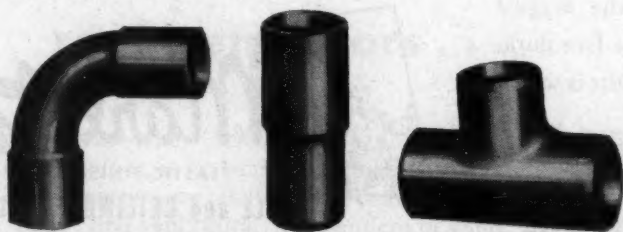
Streamline®
fitting!



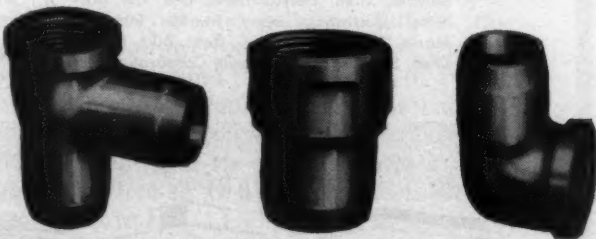
Streamline® solder type fittings are really made to last... and they'll make a neater, quicker installation

If Cleopatra's plumber had used STREAMLINE fittings we wouldn't be surprised if they would still be in pretty serviceable condition today. For STREAMLINE solder type fittings are really made to last. They cannot rust, they're not loosened by vibration and they're virtually free from clogging. STREAMLINE fittings assure a snug-fitting, tightly joined system that tests leak-proof on the first try and doesn't develop leaks later. When you install STREAMLINE fittings, you can be sure you're installing a permanently reliable conducting system whether for plumbing, heating, air conditioning or industrial use.

And here's something else... because of their design, precision manufacture and accurate dimensions, STREAMLINE solder type fittings can be installed quickly and the uniform depth of the solder joints makes it easy to compute the exact length of tubing needed. Thus STREAMLINE fittings not only assure a permanent installation, they also reduce job cost and increase the number of installations a contractor can handle.



STREAMLINE wrought and cast fittings are available in a complete range of standard sizes.



See your jobber for further information or write for catalogs S-351 and W-251 describing our complete line of STREAMLINE wrought copper and cast bronze fittings.



MUELLER BRASS CO. PORT HURON 7, MICHIGAN



Luxurious Mahogany Wood Pattern Marlite lends an atmosphere of impressive elegance to this modern executive office.

time-tested Marlite is the answer!

For 20 years architects have specified Marlite wall and ceiling panels, for modern, practical interiors. Homes, institutions, stores . . . no matter what type of project, on old walls or new, Marlite's gleaming surface assures lasting client satisfaction. Beautiful? Yes! Quickly installed? Sure! But the *biggest* advantage is the lasting economy, the maintenance-free durability of the genuine Marlite baked plastic finish. Dirt is sealed *out*; the rich colors are sealed *in* to stay!

63 colors and patterns make your job easier. Panels are 4' wide in 4', 5', 6', 8' and 12' lengths. New Marsh Color Matched Aluminum Mouldings blend perfectly, or form a pleasing contrast with any Marlite color.

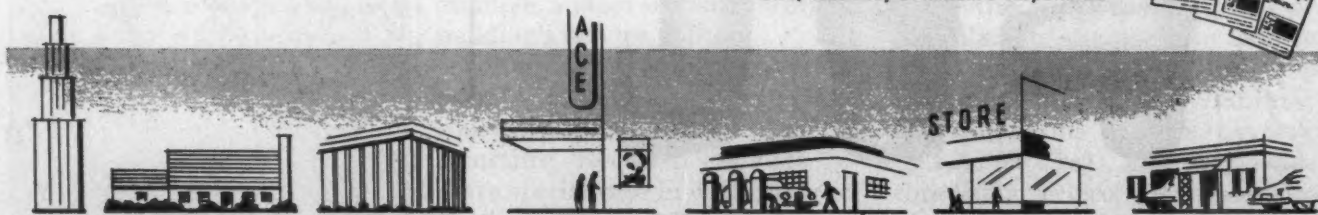
See our catalog in Sweet's File, Architectural.



Marlite's practical beauty makes housekeeping easier in kitchens, baths, dens, utility rooms, and studies.



WRITE TODAY FOR FREE SAMPLE FOLDERS showing actual samples of Marlite in Wood, Marble, Plain, Horizontal, and Tile patterns; illustrating many Marlite interiors. Marsh Wall Products, Inc., Dept. 605, Dover, Ohio, Subsidiary of Masonite Corporation.



OFFICE BUILDINGS • HOMES • HOTELS • HOSPITALS • THEATRES • AUTO SHOWROOMS • SERVICE STATIONS • STORES • TOURIST COURTS

"W
ex
or

Ne

As yo
power
archite
is posi
or wea
housin
to ins
"extra
wheel,
cooled
series
sizes p
range
ged, p
backe
compl
sult cl

JUNE

**"Wonderful for roof
exhaust from ducts
or vertical flues"**



New ILG "PRV" power roof ventilators . . .

As you analyze these new ILG centrifugal fan type power roof ventilators, it becomes clear why so many architects and engineers are singing their praises. Here is positive, controlled ventilation, independent of wind or weather conditions. Here is a single, weathertight housing containing a complete ventilating unit—easy to install, easy to service—no belts, no pulleys, no "extras". Here is a non-overloading, backward curved wheel, mounted directly onto the drive shaft of a self-cooled motor. Here is a selection of air control accessories for every requirement. Units are available in sizes providing exceptional air deliveries over a wide range of pressures (free air to $1\frac{1}{2}$ " SP). Each is rugged, precision-built to ILG's high quality standards—backed by ILG's "One-Name-Plate" Guarantee. Get complete data by calling nearby Branch Office (consult classified directory)—or send coupon today!

VENTILATION

Free! New engineering data bulletin No. 1901 gives you the complete story—features, sizes, capacities, dimensions. Send coupon now!

☐ Send free bulletin No. 1901

Firm Name _____

Individual _____ Title _____

Address _____

City _____ State _____



Why should *You* concern yourself with school doors?



No school can afford to be without the protection offered by this beautiful, inexpensive wood-faced fire door.

United States Plywood Corporation carries the most complete line of flush doors on the market including the famous Weldwood Fire Doors, Weldwood Stay-Strate Doors, Weldwood Honeycomb Doors, Mengel Hollow-core Doors, Mengel and Algoma Lumber Core Doors, 1 $\frac{3}{4}$ " and 1 $\frac{3}{8}$ " with a variety of both foreign and domestic face veneers.



WELDWOOD FLUSH DOORS
Manufactured and distributed by
UNITED STATES PLYWOOD CORPORATION
55 West 44th Street, New York 18, N. Y.
Branches in Principal Cities • Distributing Units in Chief Trading Areas
Dealers Everywhere

Stop to think about the matter and you'll agree—the doors in a school building have a heavy responsibility

They must be fire resistant because today school officials and their architects recognize the need of providing substantially greater fire protection than is offered by the conventional lumber-core door.

They must be beautiful because the utmost in decorative qualities is now practicable without sacrifice of the safety factor.

They must be durable because — as you know so well — almost everything about a school building must be built to withstand abuse.

They must be light weight, easy to open and close because small children may be using them. School doors are in motion much of the time and, therefore, must be perfectly balanced and free from warpage.

You get all these desired qualities *and more* in the two Weldwood® doors described here. No other school doors on the market offer such a combination of features important to you.

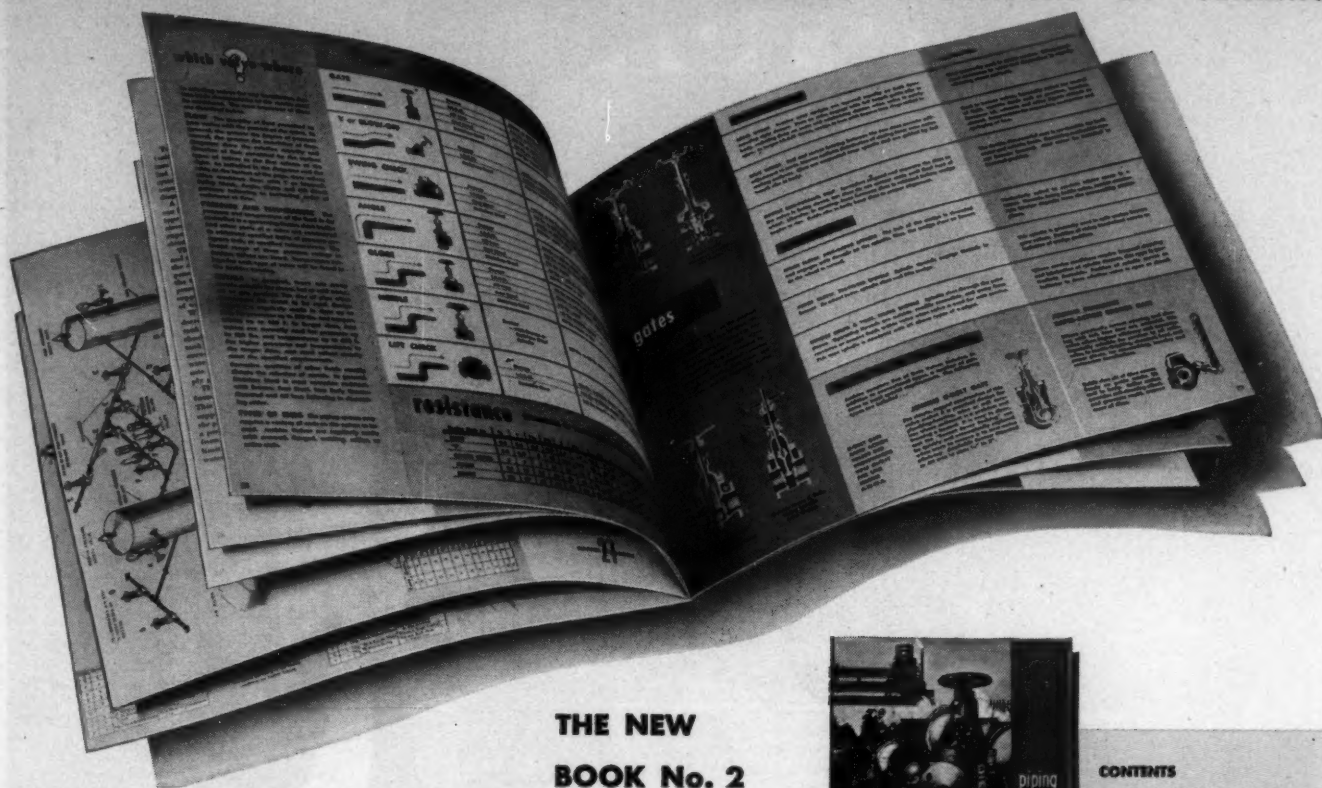
THE WELDWOOD FIRE DOOR carries the Underwriters' Label for all Class B openings. It has the incombustible Kaylo* core with special construction and fireproofed edge banding. Standard flush faces are handsome birch veneers. A wide variety of other fine hardwood faces is available on special order. Combined with safety and beauty, Weldwood Fire Doors give you the maximum in durability, dimensional stability and resistance to vermin and decay. And you get all this in a light, easily-manageable door. For example, the 3' x 7' size weighs only 84 lbs.

THE WELDWOOD STAY-STRATE DOOR is similar to the Weldwood Fire Door but is without the fireproofed edge banding. This door does not have the Underwriters' Label, but the incombustible Kaylo core gives it a high degree of fire protection. It is recommended for use where a labeled door is not specified, but where fire resistance is a desirable extra advantage. It is offered in the same wide variety of beautiful hardwood facings.

*Reg. Trademark, Owens-Illinois Glass Co.

Write for interesting, informative literature

ANOTHER NOTABLE ACHIEVEMENT IN SERVICE LITERATURE BY JENKINS



THE NEW
BOOK No. 2
Nos. 26—50

practical piping layouts

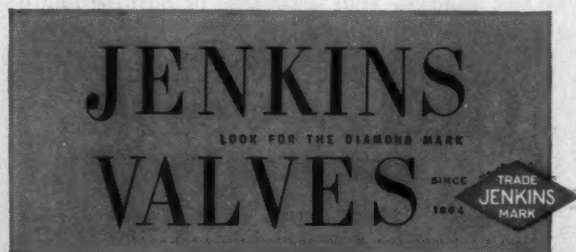
The second series of twenty-five basic Piping Layouts (published by Jenkins Bros. in leading industrial, professional, and engineering publications) is now available in booklet form.

If you are among the hundreds of valve-users who received a copy of the first book, or if you saved any of the fifty Jenkins Piping Layouts as they appeared, then you know how helpful this information can be in planning any valve installations.

This new book brings you not only 25 practical piping layouts, arranged in convenient form for quick reference. It also includes a section on the fundamentals of valve design and application to help you select the type of valves best suited for the service.

Use it as a guide to proper valve selection and placement for longest service life and lowest operating costs. Use it also for an introduction to the wide range of Jenkins Valves for every industrial engineering and plumbing-heating service. You can obtain a copy by requesting it on your business letterhead. Address:

Dept. A, Jenkins Bros., 100 Park Ave., New York 17, N. Y.



Sold through leading industrial distributors everywhere

THIS SECTION DOUBLES ITS VALUE TO YOU!

Tells "Which valve where, and why" — with information in chart form for quick reference. A compact manual that will be prized by everyone, beginner and veteran alike, who plans piping.



CONTENTS

AL PIPING LAYOUT	Page
Sprinkler System connections	2
27. Compressed Air System for Soot Blowing	3
28. Bulk Storage Station Pump House Connections	4
29. Storage Tank Filling System for Bulk Oil Distribution Station	5
30. Combination Wet Pipe and Dry Pipe Sprinkler System	6
31. Commercial Laundry Washer Piping	7
32. High Pressure Steam Connections to Laundry Equipment	8
33. Up-Feed Vacuum Pump Heating System	9
34. Steam and Water Piping for a Dye Plant	10
35. Two Pipe Exhaust Steam Heating System	11
36. High Pressure Condensate Flash Tank Connections	12
37. Single Effect Evaporator Using a Barometric Condenser	13
38. Standpipe System with Single Roof Tank for Fire Line and Domestic Water Supply	14
39. Hot Water Circulation Loop	15
40. Boiler Economizer Piping	16
41. Evaporative Cooler	17
42. Oil Burner Piping for Light Oils	18
43. Cooling Tower Water System for Multiple Story Buildings	19
44. Continuous Boiler Blowdown System	20
45. Direct Admission System for Chemical Treatment of Fluids	21
46. Closed Feedwater Heater System	22
47. Localized Hot Water Supply Using Steam-Cold Water Mixers	23
48. Central Pumping Station for Transfer of Fluids	24
49. Fire Fighting Solution System	25
50. Closed Expansion Tank Piping Connections	26
FUNDAMENTALS OF DESIGNS AND APPLICATIONS	27
Which Valve Where? — Functional Chart of Valve Applications	28
Gate Valves	29
Globe and Angle Valves	30
Jenkins Fig. 106-A Bronze Globe Series	30
Rapid-Action Globe Valves	31
Y or Blow-off Valves	31
Correct Disc Selection	31
Check Valves	32
By-Passes on Jenkins Iron Body and Steel Valves	32

Copyright, 1951 by Jenkins Bros.



Hallowed Hall ... or Hollow Shell?



**A single, tiny spark
can easily spell that big difference!**

Age or tradition mean nothing to fire. Old, revered buildings, with their irreplaceable contents, are especially vulnerable to total destruction by fire . . . and so are unprotected dormitories, full of sleeping students.

Obviously, there is a vital fire protection job to be done in America's schools and colleges.

An average of five school fires each day, year in and year out, is further evidence. Schools spared destruction by fire, in view of these statistics, may well consider themselves lucky. The time to do something about fire protection is now, before that luck runs out.

Fires that start in schools *can* be controlled wherever

and whenever they start, day or night, with automatic certainty, by a Grinnell Automatic Sprinkler System. Over seventy years experience proves this.



SEE THAT GRINNELL SPRINKLER HEADS ARE ON GUARD

In schools, as well as in hospitals, hotels, theaters and factories, there is a moral obligation upon architects and management to provide the utmost protection of life and property. For your own sake, be sure the lives and property for which you are responsible are protected with Grinnell automatic sprinkler heads — your assurance of positive automatic fire protection.

GRINNELL

FIRE PROTECTION SYSTEMS



GRINNELL COMPANY, INC., PROVIDENCE 1, RHODE ISLAND • BRANCH OFFICES IN PRINCIPAL CITIES

Du
Col
Flo
Sid
Col
trow
ceme

All ov
buildi
use of
concre
roof d
walkw
widely
as a w
cemen
at pra
ordina
combi
maroo
french

Color
compo
fused
and ha
plus c
Color
floate
cemen
dense
floori
when
or sid

65

Built to last a Lifetime!

BERMICO®

SEWER PIPE



Are you looking for sewer pipe that will give a lifetime of trouble-free service? Then specify Bermico.

Bermico is root-proof and corrosion-proof. It's unaffected by extreme cold or intense heat. Its joints will *stay* tight even if the ground settles unevenly underneath. And it delivers a smooth, dependable, high-capacity water flow.

Handling Bermico makes the job easier and less costly. It weighs far less than any other type of pipe and its convenient 8-foot lengths store more safely with far less breakage. Easily laid, too. A few hammer blows and joints are tight. No joining compound is needed.

Each length of Bermico must measure up to strict and unvarying engineering standards. That's why millions of feet of Bermico are now giving efficient service in house-to-sewer connections, septic tank disposal and drainage systems.

Get the full story on why you should specify Bermico. Write today to Dept. AR-6.

BERMICO SEWER PIPE

A PRODUCT OF  **BROWN** *Company*

Berlin, NEW HAMPSHIRE

GENERAL SALES OFFICES: 150 CAUSEWAY STREET, BOSTON 14, MASS.

Branch Sales Offices: Portland, Me., New York, Chicago, St. Louis, San Francisco, Montreal

SOLKA & CELLULOSE PULPS • SOLKA-FLOC • NIBROC PAPERS • NIBROC TOWELS • NIBROC KOWTOWLS • BERMICO SEWER PIPE, CONDUIT & CORES • ONCO INSOLES • CHEMICALS

These Glazing Jobs Could Have Been Tough...

DOMES SKYLIGHT AND PASSAGEWAY COVER at The Johnson's Wax Administration and Research Center

Large transparent sheets of PLEXIGLAS are used to glaze a giant dome skylight and long passageway at the new Administration and Research Center designed by famed architect Frank Lloyd Wright for S. C. Johnson & Son, Inc., in Racine, Wisconsin. The extremely durable, light weight, acrylic plastic panels are formed into curved sections to cover circular and horizontal runs of glass tubes that give a highly effective decorative appearance to the installations. PLEXIGLAS fabrication and installation: Universal Plastics, Inc., Milwaukee, Wisconsin.

PLEXIGLAS Made Them Easy

Look again at the large dome and long passageway—and discover some interesting glazing problems. Curved, one-piece sections are required—up to 5' x 10' in size! Design calls for three-dimensional curvatures in the 25-foot-diameter dome, and 24"-radius half cylinders for the 60-foot passageway cover. Finally, there's the problem of safe shipment and erection of the transparent panels.

PLEXIGLAS acrylic plastic simplified the job. Large thick sheets—half-inch thickness for these installations—can be formed without difficulty to almost any shape. Toughness and resilience permit safe shipment

of formed sections, and insure against breakage in service. And because PLEXIGLAS weighs less than half as much as glass, panels can be erected easily, safely, with far less support.

Other advantages of PLEXIGLAS? Optical clarity or light-diffusing translucence, lasting beauty, resistance to sun and weather. In imaginative, modern construction of all kinds—in storefronts, building facades, glazing, signs and lighting—this sparkling acrylic plastic plays an ever-greater part. We'll be glad to send you full details without obligation.

A steadily increasing percentage of PLEXIGLAS production, now at record levels, is required for the defense mobilization program. The supply available for civilian applications is limited.

PLEXIGLAS is a trade-mark, Reg. U. S. Pat. Off. and in principal foreign countries. Canadian Distributor: Crystal Glass & Plastics, Ltd., 54 Duke Street, Toronto, Ontario, Canada.

CHEMICALS



FOR INDUSTRY

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Representatives in principal foreign countries

Brawn in the Doors helps Brains in the Classrooms



Roddiscraft Door installation at new Senior High School, Oak Ridge, Tennessee. Architects — Skidmore, Owings & Merrill.

Standard Thickness Face Veneers* Prove the Best

The thinner the face veneer, the less wood exposed outside the waterproof glue line. That's why Roddiscraft Standard Thickness Face Veneers — 1/28 inch for most woods — retain their original beauty. Exposure tests show checking patterns become coarser and more conspicuous as the face thickness increases. Thin veneers permit better matching, are more resistant to abuse, and can be repaired more satisfactorily in the event of damage.

*1/28 inch thick for most woods

NATIONWIDE Roddiscraft WAREHOUSE SERVICE

Cambridge, Mass. • Charlotte, N. C. • Chicago, Ill. • Cincinnati, Ohio • Dallas, Texas • Detroit, Michigan • Houston, Texas • Kansas City, Kan. • New Hyde Park, L. I., N. Y. • Los Angeles, Calif. • Louisville, Ky. • Marshfield, Wis. • Milwaukee, Wis. • New York, N. Y. • Port Newark, N. J. • Philadelphia, Pa. • St. Louis, Mo. • San Antonio, Texas • San Francisco, Calif.

Roddiscraft

Solid Core Flush Veneered Doors

Sturdy • Silent • Safe • Waterproof

Combined in Roddiscraft Standard Construction are all the required elements of a superior door for school use — both interior and exterior.

Roddiscraft Solid Core construction is an effective barrier to sound. It shuts disturbance out of classrooms — reduces distractions — improves study conditions. Independent tests show an average sound transmission loss of 30.9 decibels for the standard 13/4" door.

Roddiscraft Solid Wood Core welded to tough 1/10" hardwood crossbandings makes it puncture-proof — reduces maintenance and repair costs.

Roddiscraft Standard Construction provides a margin of fire protection above requirements. Independent tests have proved time and again the ability of Roddiscraft Solid Core Doors to exceed the 40-minute fire test.

Double protection against moisture absorption with two waterproof glue lines — makes Roddiscraft suitable for any climate and any condition of humidity.

With all these utility features, Roddiscraft offers the beauty of natural wood. It provides architects with opportunities for modern or conventional interior treatments. Available in a wide variety of domestic and foreign hardwoods.

Roddiscraft

RODDIS PLYWOOD CORPORATION
MARSHFIELD, WISCONSIN

Aerofuse

F. W. WOOLWORTH & CO.



GIMBEL BROTHERS



GOLDMAN THEATRE



OTHER TYPICAL AEROFUSE INSTALLATIONS IN THE PHILADELPHIA AREA

• Philadelphia
Inquirer

• Sharp & Dohme

• John Wanamaker

• Rittenhouse
Claridge

• Sagre Junior
High School

CENTRAL PENN NATIONAL BANK

Whether you shop, work or relax in air conditioned comfort in the Quaker City, there's a good chance that Aerofuse Diffusers are there, too. For, as in other cities the country over, important air conditioning jobs in historic Philadelphia are Aerofuse jobs. In department stores, theatres, banks, offices, etc.—where conditions and requirements vary widely—the men responsible for these installations know from experience that when they select diffusers from the Aerofuse line they will meet the most rigid specifications of performance and appearance . . . *at the vital point of air delivery.*

Send for your copy of Aerofuse Catalog 104 . . . complete information, size selection data, engineering details.

TUTTLE & BAILEY inc



NEW BRITAIN, CONNECTICUT



Part of 60-cell Exide FM-11 Battery used in Macy's, San Francisco, for emergency lighting and circuit breaking.

Macy's, San Francisco, is protected from sudden lighting failure

In large stores—in all buildings where crowds gather—danger enters when lights go out. Despite all precautions of light and power companies, storms, fires and accidents beyond their control can cause interruptions of normal electric current. Such interruptions can be avoided. For instance:

Protection from lighting failure in Macy's San Francisco store is provided by Exide Emergency Lighting.

This has enough capacity to carry an emergency lighting load of 22,500 watts for one hour. It also supplies battery power for tripping the store's circuit breakers.

Safeguard the buildings you design from lighting failure. Exide Emergency Lighting provides safe, sure, modern protection. Batteries are always fully charged, ready to take over the lighting load *instantly* and *automatically*.

THE ELECTRIC STORAGE BATTERY COMPANY
Philadelphia 2

Exide Batteries of Canada, Limited, Toronto

1888...DEPENDABLE BATTERIES FOR 63 YEARS...1951



Equipment for Macy's Exide Emergency Lighting includes an H12 charger and an H22534 automatic transfer switch.



One of the West Coast's great department stores.

Exide

EMERGENCY
LIGHTING

"Exide" Reg. Trade-mark U. S. Pat. Off.

ARCHITECTURAL RECORD



Steps are Lighter... Days are Brighter

with Resilient, Colorful FLEXACHROME Floors



Years of trouble-free service at extremely low maintenance cost make this plastic-asbestos tile a favorite for school floors.

Proper investment of public money is a heavy responsibility. So people connected with the construction and operation of schools turn to Flexachrome* floors.

This plastic-asbestos flooring material is a "natural" here. It's rugged . . . really rugged. Years and years of students' scuffling feet scarcely leave a sign of wear.

And, it's so easy to keep Flexachrome floors at their best. All it takes is sweeping, to remove loose dirt . . . periodic washing . . . water-waxing, if desired.

When it comes to beauty, Flexachrome colors are unsurpassed. 33 brilliant colors . . . *true* colors, from sparkling white to rich, glossy black.

In short, Flexachrome gives you color to enhance any decorative scheme.

And, Flexachrome's wide range of sizes combine to give you almost unlimited design versatility.

It's resistant, too . . . highly resistant to acids and alkalis . . . and completely greaseproof.

This means you'll want floors of this vinyl plastic-asbestos composition tile in Home Economics departments, cafeterias, industrial arts shops . . . even in science classrooms and laboratories.

A letter will bring you specifications, product data and samples, together with a description of our free design counsel and floor layout service.

Look in your classified telephone directory for your Tile-Tex* dealer. If he is not listed, write us today.

THE TILE-TEX DIVISION, The Flintkote Company, Dept. S., 1234 McKinley St., Chicago Heights, Ill.

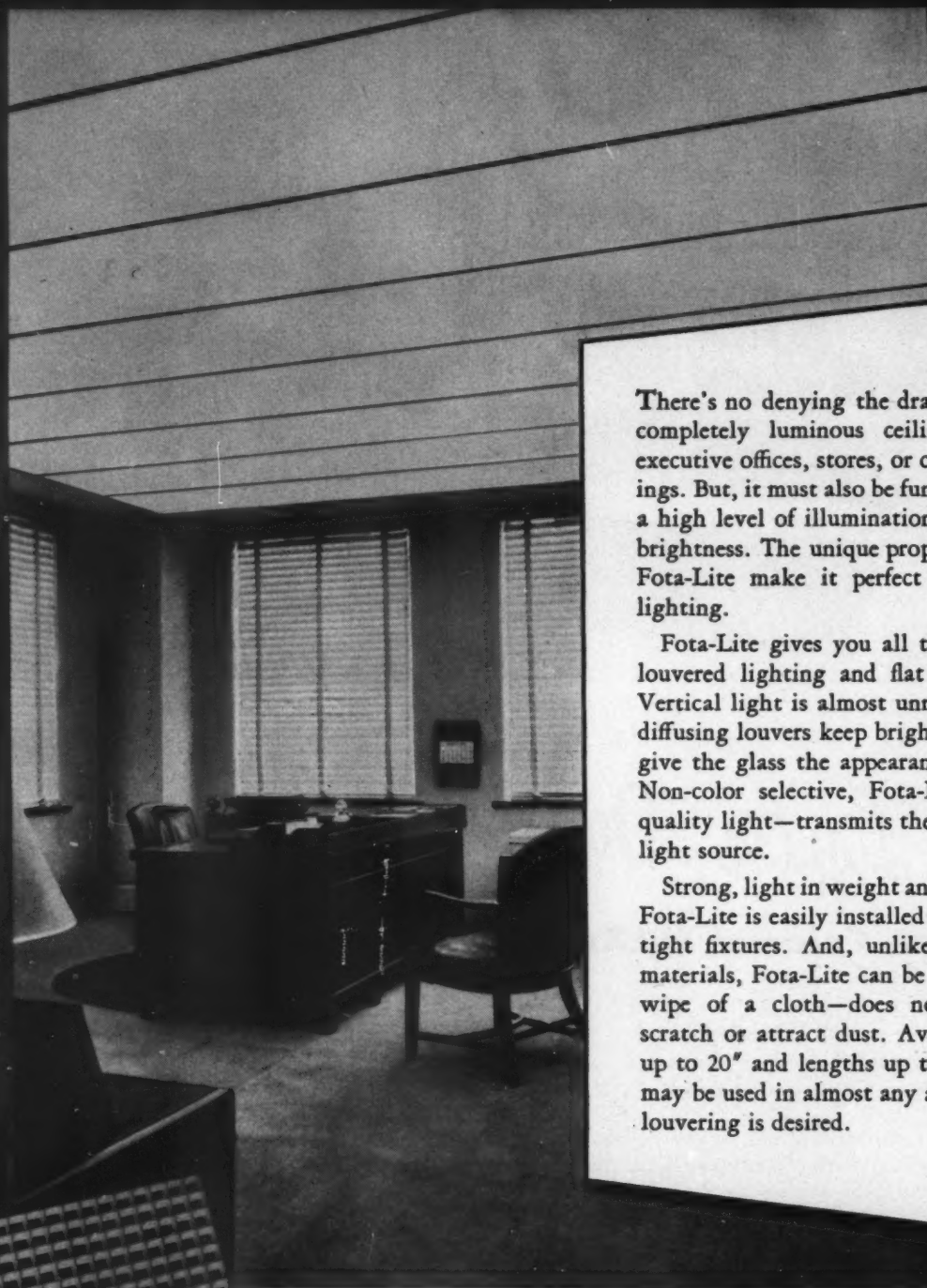
Tile-Tex

PLASTIC-ASBESTOS

FLOORS AND WALLS

*Registered Trademark, The Flintkote Company

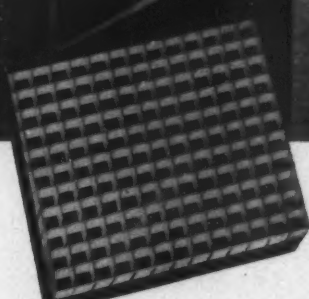
For Distinctive Shadowless Lighting...
CORNING FOTA-LITE



There's no denying the dramatic effect of a completely luminous ceiling whether for executive offices, stores, or commercial buildings. But, it must also be functional—provide a high level of illumination with low panel brightness. The unique properties of Corning Fota-Lite make it perfect for this type of lighting.

Fota-Lite gives you all the advantages of louvered lighting and flat glass combined. Vertical light is almost unrestricted, yet the diffusing louvers keep brightness level low—give the glass the appearance of plain opal. Non-color selective, Fota-Lite gives better quality light—transmits the true color of the light source.

Strong, light in weight and free of warpage, Fota-Lite is easily installed in shallow, dust-tight fixtures. And, unlike usual louvering materials, Fota-Lite can be cleaned with the wipe of a cloth—does not change color, scratch or attract dust. Available in widths up to 20" and lengths up to 49", Fota-Lite may be used in almost any application where louvering is desired.



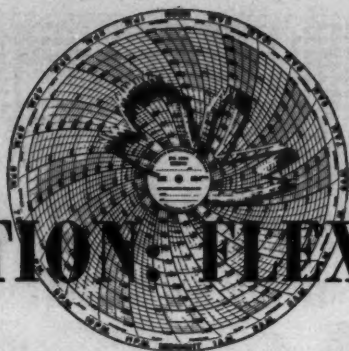
A remarkable new lighting medium, Fota-Lite controls the 45° cutoff by louvers photographically produced in a thin ($\frac{1}{8}$ ") panel of glass. The tiny opal louvers are part of the glass itself—will not deteriorate with age or weathering—save metals—lower maintenance costs.

CORNING GLASS WORKS, CORNING, N. Y.

Corning means research in Glass



1951 • 100 YEARS OF MAKING GLASS BETTER AND MORE USEFUL • 1951



OPERATION: FLEXIBILITY

A CLEAVER-BROOKS STEAM BOILER GIVES YOU:

- ✓ Quick, effortless response to fluctuating steam demands.
- ✓ Equally high efficiency (80%) operating with oil or gas.

Fluctuating steam loads are no problem when you have a custom-planned Cleaver-Brooks boiler in your plant. Whether your demand is heavy or light, steady or variable, these sturdy heavy-duty boilers respond instantly to your steam needs. Even with loads as low as 30% of rating, Cleaver-Brooks boilers operate with a flat 80% efficiency.

Cleaver-Brooks boilers burn either

oil or gas . . . either fuel is properly proportioned to meet your steam demand and need. No banking of fires or loss of valuable heat during low load periods. You benefit with lower fuel bills, less maintenance, reduced operating costs.

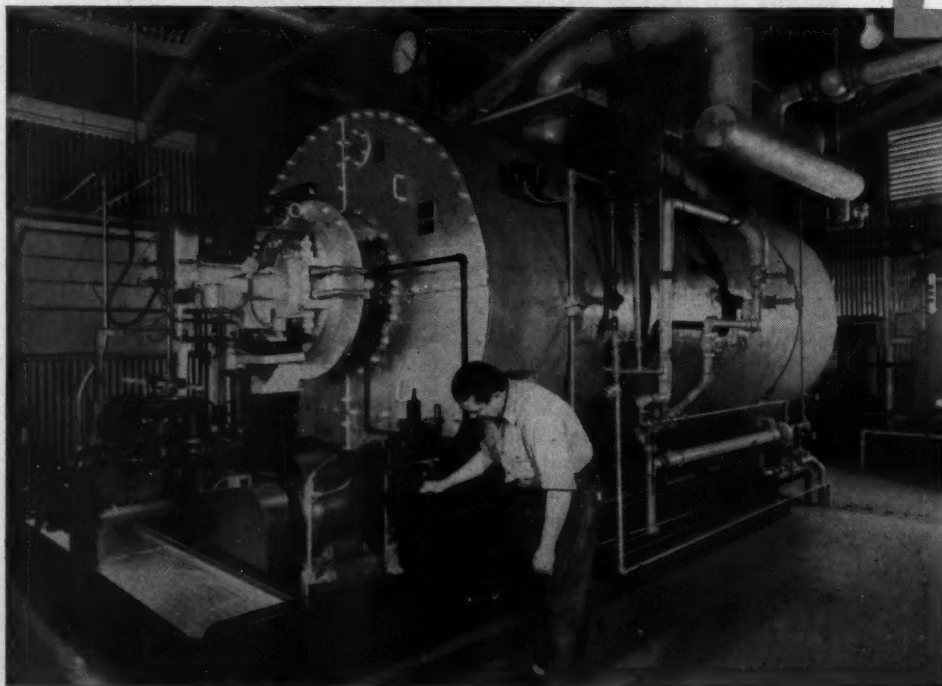
If you are considering a change in your present boiler plant—think about flexibility — and get the complete facts about Cleaver-Brooks custom-

planned boilers. Cleaver-Brooks self-contained boilers 15 to 500 HP, 15 to 250 lbs., p. s. i. — oil, gas, combination oil and gas firing. CLEAVER-BROOKS COMPANY, 362 East Keefe Avenue, Milwaukee 12, Wisconsin.

Cleaver-Brooks

STEAM BOILERS

the first and finest of their class



*Write for a
Cleaver-Brooks
Steam Boiler
Catalog.*

PAINE REZO DOORS

T. M. REGISTERED

are ***Unconditionally Guaranteed***
and here's what makes that guarantee good



**the interlocking,
ventilated all wood core that provides
unduplicated strength and stability**

On the surface, flush hollow core doors may look much alike, but it's what's beneath the face that determines the service and satisfaction that you can expect. Here's where the superiority of Paine Rezo doors is most pronounced; for nowhere else will you find equal dimensional stability, nor such lightness in weight combined with great structural strength.

For these reasons architects and contractors everywhere have installed more than four million Paine Rezo doors in

buildings of every type. No other hollow core door has been so widely endorsed, so thoroughly time-proved. Remember, when you specify Paine Rezo doors your satisfaction, now and in the future, is *unconditionally guaranteed*.

See SWEET'S catalog — or write for an illustrated data bulletin.

Manufactured by the

PAINE LUMBER CO., LTD. *Oshkosh
Wisconsin*

ESTABLISHED 1853

You, too, can profit by **INSULITE® Leadership**

"We gave 350 families better constructed homes at lower cost by using Bildrite® Sheathing"

MONROE WARREN, Sr.
President, Meadowbrook, Inc.
A leading Washington, D. C.
builder for 30 years.



Monroe Warren, like thousands of other leading builders, has learned the meaning of INSULITE leadership through actual experience. Here's his story—in his own words:

"Gentlemen: We know and appreciate the advantages of Bildrite Sheathing, for we have built more than 350 homes since we started using it. As reputable builders, we use only the highest quality materials; but we are always looking for economies, at no sacrifice in quality. Our search led us to Insulite.

Because it is stronger and more economical, we use Bildrite instead of wood sheathing. We store it on the job, where it is exposed to the weather for weeks at a time. Yet, due to Insulite's leadership in developing a tougher, more rigid board that is really water-proofed throughout, we have had absolutely no losses due to warping or buckling.

Mr. E. C. Burgdorf, our Superintendent of Construction, points out that the ease of handling Bildrite Sheathing on the job enables us to 'close in' houses faster, and substantially save on labor costs.

With hundreds of thousands of feet of trouble-free use to back our judgment, we definitely prefer Insulite—and will continue to specify it on our new jobs.

Sincerely,

Monroe Warren, President
MEADOWBROOK, INC."

E. C. Burgdorf, Meadowbrook's
Construction Superintendent



6-51

INSULITE DIVISION
MINNESOTA AND ONTARIO PAPER COMPANY
MINNEAPOLIS 2, MINNESOTA

Refer to Sweet's File, Architectural Section—10a/in

More and more builders are learning about INSULITE'S leadership . . . how it means extra quality and advantages—yet saves them money. Give your clients these advantages, too, by specifying INSULITE on your next job. For complete information and samples, just drop us a card.

1818 HOPE'S 1951

SCHOOL WINDOWS



*Archbishop Williams High School, Braintree, Massachusetts
Maginnis and Walsh, Architects Walsh Brothers, Contractors*

Hope's Intermediate Projected Windows, set into Hope's "Biltin" Subframes, were used in the fenestration of this splendid, modern school building.

It is clear from looking at this pleasing exterior that the class and study room interiors are most successful, with ample daylighting of all desks and restful distant vision for the eye's relief from the strain of close work.

Hope's Projected Windows also give control of natural ventilation with fresh outdoor air in warm weather. The name "HOPE'S" guarantees lasting convenience of operation and satisfaction for the whole life of the building.

Outstanding advantages are afforded by the use of Hope's "Biltin" Subframes. As in this case, these

subframes may be so designed that the windows are nearly in the same plane as the building's exterior face, providing extra space inside for the installation of heating, ventilating and conditioning apparatus. Inside, they make possible a wide ledge or counter at sill height which is also useful in other types of buildings.

The use of "Biltin" Subframes gives the architect a far wider choice in design possibilities. Study of the photograph shows how the continuous, ribbon-type frames serve more than one room, with the interior partitions abutting on the wide, hollow metal mullions. Complete information on Hope's "Biltin" Subframes is given in Hope's Catalog No. 122A. Write today for your copy.

HOPE'S WINDOWS, INC., Jamestown, N. Y.

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

now! MENGEL MAHOGANY Flush DOORS

Available at
less than many
Domestic Woods!



"Believe it or not"!—Mengel Flush Doors with faces of genuine African Mahogany can now be bought for less than comparable doors built with many conventional domestic woods!

Why? Because Mengel, drawing from its own vast logging concessions in the heart of Africa's Gold Coast, brings its fine Mahogany veneers to America in tremendous volume. Second, Mengel has the wood-working equipment and know-how to manufacture its top-quality doors *with mass-production economy and efficiency!*

Use the coupon to get full details about Mengel Mahogany Doors. Until you know the facts, you'll never appreciate the extra luxury, the extra *values* now immediately available for *any* kind of job.



THE MENGEL COMPANY
Plywood Division, Louisville 1, Ky.

Gentlemen: Please send me full information on Mengel Mahogany Flush Doors—Hollow Core and Stabilized Solid Core.

Name _____

Firm _____

Street _____

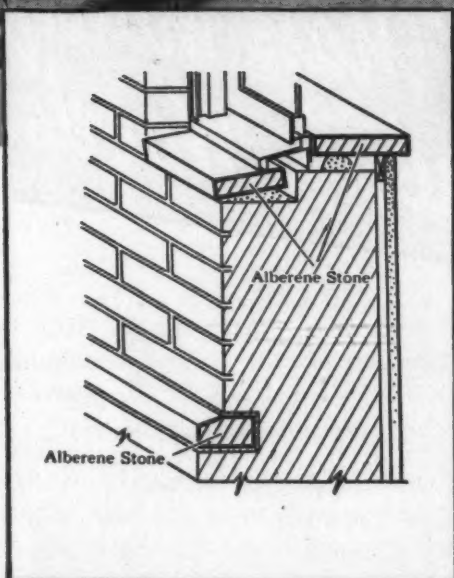
City _____

State _____

The Mengel Company . . . America's largest manufacturers of hardwood products
• growers and processors of timber • manufacturers of fine furniture • veneers •
plywood • flush doors • corrugated containers • kitchen cabinets and wall closers



*Tripler General Hospital, U. S. Army Medical Dept., Hawaii
— Architects: York and Sawyer, New York City. 1½" Alberene slip sills.*



Detail showing 1½" thick slip sill with 1¼" stool and 2¼" belt course.

sills, stools, and trim of **ALBERENE** stone are **DURABLE and ECONOMICAL**

Regular Grade Alberene Stone is an ideal material for exterior trim because it can be cut into thin sections, permitting substantial economies. It offers freedom to the designer—by making possible greater reveal, to give just one example.

The stone has no cleavage planes, is dense, non-absorbent, and chemically-resistant. It is free of maintenance cost. Its color—silver gray in rubbed finish and a pleasing blue gray when honed—harmonizes well with almost any color scheme.

Where a darker color is desired, we suggest

Alberene Serpentine. It is a darker gray in rubbed finish, blue-black when honed, and blue-black or black when polished.

The high chemical resistance of both stones, which has made them favorites for use in laboratory equipment, also makes them ideal for window stools in laboratory buildings.

Since there is a decided difference in price between Alberene *Regular Grade* and *Serpentine*, architects' specifications should be carefully worded so as to clearly call for the type desired. Ample supplies of both materials are available.

ALBERENE STONE CORPORATION

419 Fourth Avenue, New York 16, N. Y.

Branches in Principal Cities

Lighting matched to the job

" BRIGHTNESS can be COMFORTABLE "

A California school for deaf children presented this problem: "To provide *comfortable* high-intensity lighting with freedom from shadows or glare."

Since the atmosphere was clean, a semi-indirect lighting system was recommended. Results: "60 to 82 footcandles on the desks . . . 43 on the chalkboards (after three months of continuous use.)"

What's more, the diffusing plastic that was used is attractive, light, easy to handle and easy to clean.

Building lighting equipment that will meet any—

and all—classroom requirements is our business. It will pay you to investigate our complete line. Get B-5254, Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.

J-04291



YOU CAN BE SURE.. IF IT'S
Westinghouse

PLANNED LIGHTING





EVERYTHING YOUR CUSTOMER WANTS

IN A PACKAGE AIR CONDITIONER

Here are the reasons why your customer will be happy with his Worthington Package Air Conditioner:

QUIET—acoustically insulated cabinet . . . no belts to wear or get out of line.

VIBRATION-LESS—smooth-floating multi-mounted compressor . . . dynamically-balanced fan.

TROUBLE-FREE—compressor hermetically-sealed against dust and moisture . . . no pulleys, couplings or seals.

NO ATTENTION NEEDED—pressure-type oiling . . . never needs replenishing.

LONG LIFE—compressor surfaces finished to micro-inch accuracy . . . over-

size bearings . . . four rings per piston . . . dynamically-balanced crankshaft.

SAFE—high-pressure cut-out . . . high temperature safety switch.

CONVENIENT—finger-tip selection of temperature . . . thermostatic control . . . finger-tip adjustment of louvers.

ATTRACTIVE—plastic baked-enamel finish, scratch-resisting, washable . . . rounded corners, no projections . . . no "sweating".

ECONOMICAL—thermally-insulated . . . large copper-finned cooling coils . . . Worthington Feather* Valves.

Each Worthington unit—3, 5 and 7½ ton sizes**—is built to the same high quality standards as Worthington equipment for engineered systems, such as those described at the right. Write for Bulletin C1100-B29.

*Reg. U. S. Pat. Off.

**Also, for remote location: 7½, 10, 15, 20, 25 ton units



Another "Worthington-Conditioned" hotel

in the National Hotel Co. chain



The 400-room Washington Hotel, one of the leading hotels in the nation's capital, gets its air conditioning from a Worthington centrifugal refrigeration system, using chilled water. This is one of five National Hotel Company hotels to be Worthington-conditioned; the others are Hotel Jung, New Orleans; Travis Hotel, Dallas; Thomas Jefferson Hotel, Birmingham; Hotel Cortez, El Paso.

Off-and-On heat calls for Off-and-On cooling



The work performed in the research laboratory of Aluminum Company of America, East St. Louis, Ill., is of such a nature that excessive heat is produced intermittently.

Certain of the rooms are provided with a "wild zone" of air conditioning which goes into operation automatically when the heat-producing equipment is in use, and the normal air conditioning zone cannot handle the load.

This building is handled by a 125-ton Worthington air conditioning system comprised of two Freon-12 compressors and one evaporative condenser.

WORTHINGTON



AIR CONDITIONING AND REFRIGERATION

INVESTIGATE MORE WORTH WITH WORTHINGTON

Consult Classified Telephone Directory for nearest Worthington distributor. Worthington Pump and Machinery Corporation, Air Conditioning and Refrigeration Division, Harrison, N. J., specialists in air conditioning and refrigeration for more than 50 years.

A.1.3

DO

BE

EIG
COM
NEW

Dusin
1927 E
D & H
F. L. S
70 W.
"PERA

Ove
2943 C
"OVE

Calif
1923
"CAL
Gullb
1105
"GUI

Diebe
Conto
"DIE
Unit
55 W.
"WEL

Ove
Toled
"KA

K

..

JUN

DOUBLE Assurance OF THE BEST In Firedoors

EIGHT PROMINENT COMPANIES OFFER NEW TYPE FIREDOORS

Dusing and Hunt, Incorporated
1927 Elmwood Ave., Buffalo 7, N.Y.
D & H "PYRODOR" (Metal Face)

F. L. Saine Manufacturing Company
70 W. Colorado Ave., Memphis, Tenn.
"PERMASLAB" (Metal Face)

Overly Manufacturing Company
2943 Gleneden St., Los Angeles 39, Cal.
"OVERLY" (Metal Face)

California Fireproof Door Company
1923 S. Los Angeles St., Los Angeles 11, Cal.
"CALMETAL" (Metal Face)

Guilbert, Incorporated
1105 Frankford, Philadelphia 25, Pa.
"GUILBERT" (Metal Face Elevator Doors)

Diebold, Incorporated
Canton, Ohio
"DIEBOLD" (Metal Face)

United States Plywood Corporation
55 W. 44th St., New York 18, N.Y.
"WELDWOOD" (Wood Veneer Face)

Owens-Illinois Glass Company
Toledo 1, Ohio
"KAYLO" (Wood Veneer Face)



Eight manufacturers now offer firedoors approved by Underwriters' Laboratories and containing the material which has revolutionized the industry—Kaylo hydrous calcium silicate.

Underwriters' Laboratories, Inc. is a recognized authority on what constitutes proper fire protection. Their approval of a product is assurance of protection.

Kaylo calcium silicate is a lightweight, incombustible chemical compound (not glass). Used as the solid core of firedoors with either metal or wood veneer facings, it provides not only a barrier to flames, but a retardant to heat unequalled by core materials used in conventional firedoors. Its insulating value protects life as well as property.

Kaylo-core metal doors also save steel. They require up to 60% less than so-called hollow metal firedoors. The Kaylo core is insoluble in water, does not warp, swell or shrink, resists rot and vermin.

When buying or specifying firedoors for hotels, hospitals, schools, offices, factories, or any location where fire protection is needed—look to the eight manufacturers who give you *double assurance of the best*.

For details about Kaylo-core doors, write the manufacturers listed.

KAYLO... first in calcium silicate

...pioneered by OWENS  ILLINOIS Glass Company

MAIN OFFICE: TOLEDO 1, OHIO—KAYLO SALES OFFICES: ATLANTA • BOSTON • BUFFALO • CHICAGO • CINCINNATI • CLEVELAND
DETROIT • HOUSTON • MINNEAPOLIS • NEW YORK • OKLAHOMA CITY • PHILADELPHIA • PITTSBURGH • ST. LOUIS • WASHINGTON



it's all
**Polar Bear
White**

for 4' and 8' lamps

GUTH WYTE-LINER with **AIRFLOW** channel

A NEW IDEA FOR BETTER LIGHTING IN FACTORIES

White INSIDE and OUTSIDE... 300° Permalux or PORCELAIN ENAMEL!

- give improved brightness ratios
- take the gloom off the ceiling
- eliminate deep shadows and strong contrasts
- easy to clean—even in coal mines



LIGHTING

THE EDWIN F. GUTH COMPANY / ST. LOUIS 3, MISSOURI

Leaders in Lighting Since 1902

for better sight
and better light



Lighting for production to improve precision vision

Avoids gloomy, depressing ceilings with irritating, strong light and shadow contrast. Wyte-Liners spread brightness, cheerfulness, create better seeing and better working conditions.

AIRFLOW VENTILATION



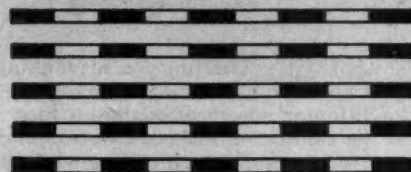
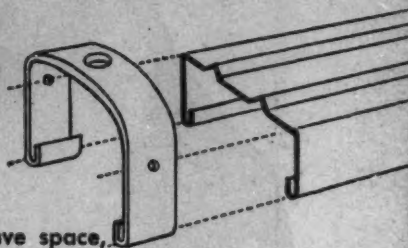
provides natural air circulation along entire channel to increase ballast life and efficiency.

EASY INSTALLATION

wide choice of mounting methods... continuous or individual

- sliding hangers
- telescope channels

interchangeable parts save space, time and money, easy to install



FIXTURE
BLANK
SECTION

one of many mounting possibilities: alternate fixture and blank space with covered, continuous wire way

Guth

GUTH WYTE-LINERS

in 2 and 3 40-watt light units, for 4- and 8-ft. Slimline in 4- and 8-ft. lengths.

GUTH WYTE-LINERS

are now in production and will be available soon.

Our 16-page catalog gives you all details. Just fill out this coupon and mail to us. No obligation.

THE EDWIN F. GUTH COMPANY

2615 Washington Avenue, St. Louis 3, Missouri

Please send me **FREE** your catalog 48-J

(please print plainly)

NAME _____

TITLE _____

COMPANY _____

STREET _____

CITY _____

ZONE _____

STATE _____



YOUR
SPECIFICATIONS
ARE A TRUST
to this
sound conditioning
expert

No matter what type of building you're planning—no matter what noise problems may be involved—your Sound Conditioning specifications are a *trust*... to your local distributor of Acousti-Celotex products!

He can perform to your specifications without tampering. For he has the broad professional training and experience—the job-proved methods—the complete line of top quality materials necessary to meet every specification, every requirement, every building code!

So when you're planning, be sure to consult with your local distributor of Acousti-Celotex Products. He's backed by the world's most experienced Sound Conditioning organization, with thousands of actual instal-

lations to its credit. He can help you be sure in *advance* of the most attractive, most efficient Sound Conditioning installation possible!



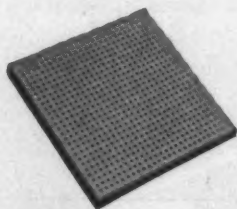
ACOUSTI-CELOTEX
TRADEMARK REGISTERED U. S. PAT. OFF.

Sound Conditioning Products

PRODUCTS FOR EVERY SOUND CONDITIONING PROBLEM

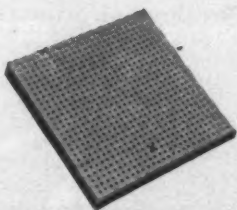
120 S. La Salle St., Chicago 3, Illinois

Dominion Sound Equipments, Ltd., Montreal, Quebec, Canada



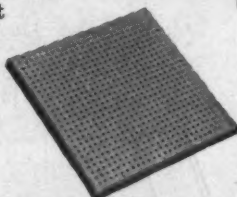
**ACOUSTI-CELOTEX®
CANE FIBRE TILE**

A lightweight, rigid unit, combining acoustical efficiency with a durable, smooth surface. Perforations (to within 1/8" of the back) assure repeated paintability, easy maintenance. Available in a variety of sound-absorbent ratings. Dry rot proofed by exclusive Ferox® process.



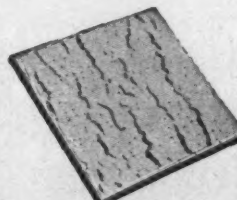
**ACOUSTI-CELOTEX®
MINERAL TILE**

Made of mineral fibre, felted with a binder to form a rigid tile with a universal rating of incombustibility. Perforated with small holes extending almost to the back, this tile provides high acoustical absorption plus unrestricted paintability by either brush or spray method.



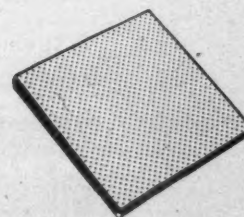
**ACOUSTI-CELOTEX®
FLAME-RESISTANT
SURFACED TILE**

A cane fibre tile with a flame-resistant surface. This tile meets *Slow Burning* rating contained in Federal Specifications SS-A-1115a. It may be washed with any commonly used solution, satisfactory for good quality oil-base paint finishes, without impairing its flame-resistant surface characteristics and without loss of sound-absorbing capacity. Repainting with Duo-Tex flame-retarding paint will maintain peak efficiency. Supplied in all sizes and thicknesses of regular cane tile.



**ACOUSTI-CELOTEX®
FISSURETONE®**

A totally new mineral fibre acoustical tile. Attractively styled to simulate travertine. It beautifies any interior and effectively controls sound reverberation. Lightweight, rigid and incombustible, it is factory-finished in a soft, flat white of high light-reflection rating.



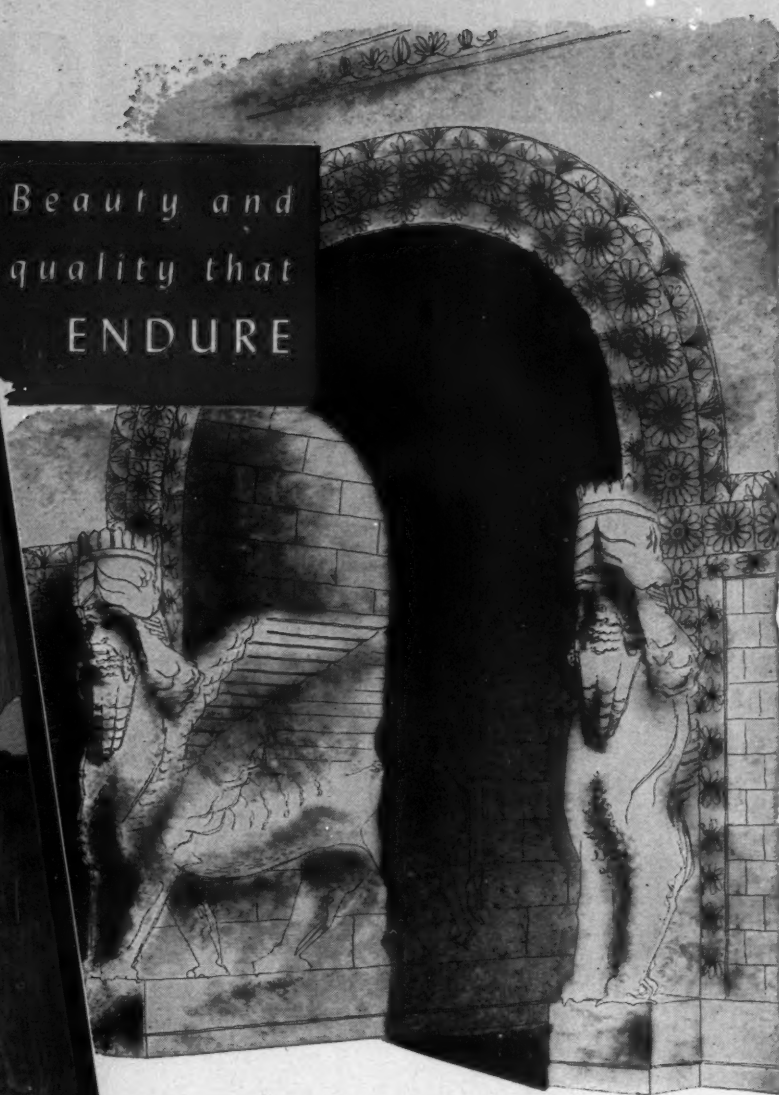
ACOUSTEEL®

Combines a face of perforated steel with a rigid pad of sound-absorbing Rock Wool to provide excellent sound-absorption, together with attractive appearance, durability and incombustibility. The exposed surface of perforated steel is finished in baked-on enamel. Acousteel is paintable, washable, cleanable.

®Trademarks Reg. U. S. Pat. Off.



Beauty and
quality that
ENDURE



HASKO **ARCH-KOR** DOORS

The ARCH-KOR construction assures resistance to warping and complete support of the faces of the Hasko doors.



Since Neolithic Man's discovery of the principle of the arch a perfection of beauty and strength have been added to our structures. Since Haskelite Men utilized the principle of the arch in HASKO ARCH-KOR DOORS, their lasting beauty and enduring strength have created a constantly growing demand, which places them today

the result of proved performance
through the use of proved
construction principles

in a position of top leadership in their field. The highest quality materials and the best in craftsmanship have helped build and maintain the reputations of suppliers of materials who specify and use HASKO DOORS. These are proofs of their worthiness of your endorsement and use. Ask your supplier for HASKO DOORS. Write for complete information.

Hasko ARCH-KOR and SOLID-KOR Flush Doors are available faced with birch, mahogany, oak, maple, walnut, and gum.

HASKO

HASKELITE MANUFACTURING CORP., Grand Rapids 2, Michigan

West Coast Agents: Clay Brown & Co.,
Portland, Ore., and Los Angeles, Calif.

One of the world's largest manufacturers of plywoods, metal clad plywood, and other laminated materials for use in industrial and consumer products.

Answers the "WALL-OF-ICE" Problem...

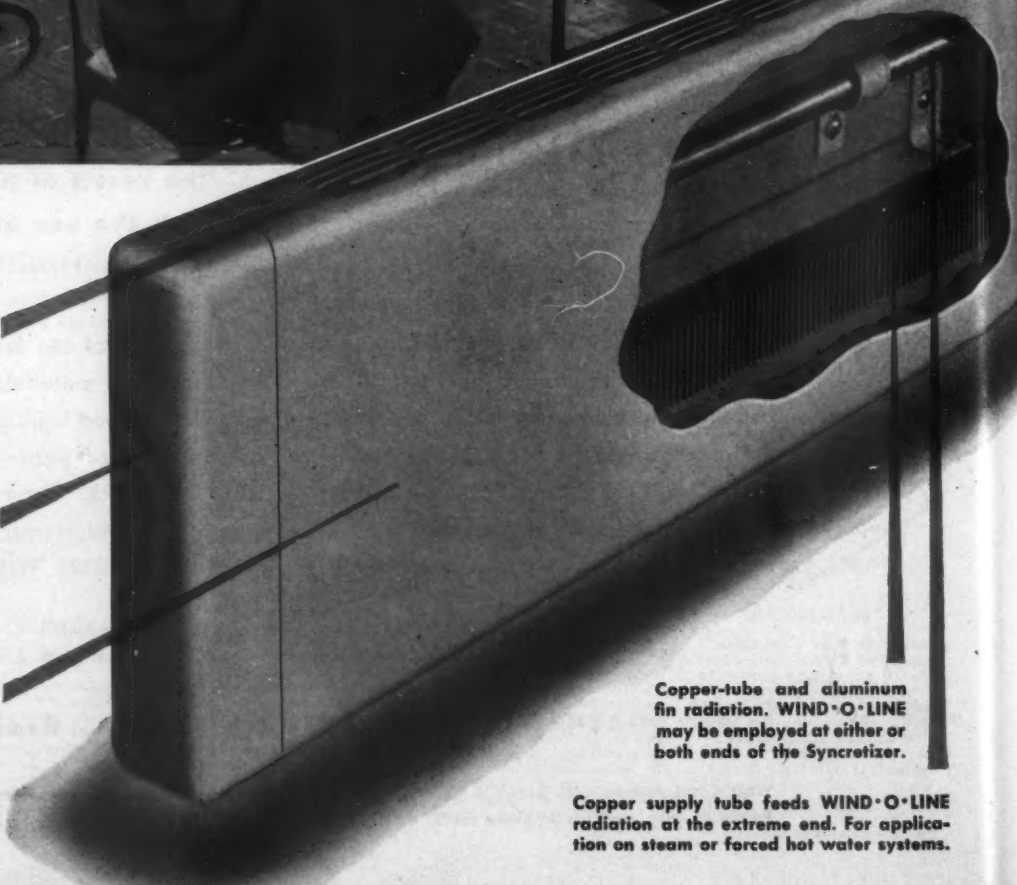
NESBITT SYNCRETIZER with



Close-up view shows well-proportioned wall-hung enclosure for WIND-O-LINE Radiation. It has intake openings at the bottom and discharge outlets of attractive louvre design.

Combinations of several standard lengths produce the extent of WIND-O-LINE desired (within 6" increments). To this length is added a round-cornered metal endpiece to finish off the WIND-O-LINE enclosure.

Enclosure front sections fasten to back panel sections supporting the radiation. Wall-hung enclosures and storage units are finished to match Syncretizer colors.



Copper-tube and aluminum fin radiation. WIND-O-LINE may be employed at either or both ends of the Syncretizer.

Copper supply tube feeds WIND-O-LINE radiation at the extreme end. For application on steam or forced hot water systems.

"Wall
the N



WIND·O·LINE

ONLY NESBITT GIVES YOU THIS THERMAL BLANKET

The modern trend toward large classrooms and increased window areas makes greater demands of the heating and ventilating unit. The "thermal blanket" provided by the Nesbitt Syncretizer adequately shields occupants against the window "wall-of-ice" in normal situations; but under conditions of extremely long glass exposure and very low outdoor temperatures, an "extra blanket" is called for. The Nesbitt Syncretizer with WIND·O·LINE meets such needs.

WIND·O·LINE Radiation achieves a positive result entirely unlike that attained by any other means of auxiliary heating. WIND·O·LINE is controlled in cycle with the Nesbitt Syncretizer to provide a blanket of heat at the sill line whenever heating is called for in the classroom. This heat warms the window downdraft and deflects it upward into the region above the heads of the room occupants.

WIND·O·LINE finned-tube radiation has been designed for two methods of integration with the Nesbitt Syncretizer: 1) wall-hung in its own casing; and 2) recessed in the storage cabinets of The Nesbitt Package.

Wall-hung WIND·O·LINE is used with the free-standing Syncretizer. Its attractive casing is provided with air-intake openings at the bottom and discharge grilles at the top. Wall-hung WIND·O·LINE is installed just below the windows to extend from both ends of the Syncretizer unit ventilator for the full length of the sill, as pictured here.

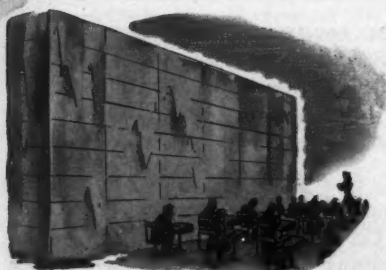
As a component of The Nesbitt Package, WIND·O·LINE Radiation is concealed in a channel at the rear of the storage cabinets. The cabinets are provided with air-intake openings at the toe-space and attractive grilled outlets at the back of the display board.

For further information request Nesbitt Publication 264,
or Engineering Data Publication 261, Section W.

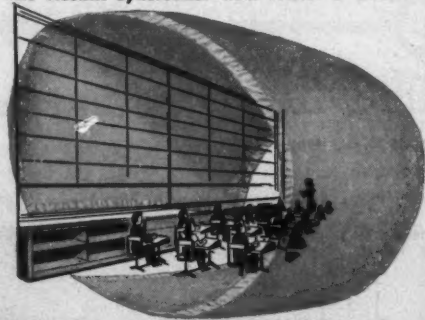
The Nesbitt Syncretizer

THE UNIT VENTILATOR THAT SETS A NEW STANDARD OF CLASSROOM COMFORT

MADE AND SOLD BY JOHN J. NESBITT, INC., PHILADELPHIA 36, PA.
SOLD ALSO BY AMERICAN BLOWER CORPORATION



"Wall-of-ice" classrooms are protected by the Nesbitt Syncretizer with WIND·O·LINE.





This
Junior High School
Is SENIOR
In Lighting!

Take a look at this cheerful classroom . . . at the eye-filling home economics lab . . . and at those eye-saving Litecontrol No. 5328 Slimline Louvered Fixtures. Matter of fact, the entire school is Litecontrol-equipped.

Shallow-louvered and clean in line, the Slimline blends beautifully with functional design and furnishings. Performance, of course, is in the Litecontrol tradition of maximum efficiency for the

job . . . mounting arrangements are versatile . . . and, with louvers hinged at either side, re-lamping and maintenance are easy, speedy, with no special

tools required.

On your next difficult or unusual lighting problem, call or write your LITECONTROL Representative.



JOB: JUNIOR HIGH SCHOOL, ARDMORE, OKLAHOMA. Electrical Contractor: Baber Electric Company, Ardmore, Oklahoma. Lighting Equipment: Litecontrol #5328, 2-lamp Slimline louvered fixtures, hung on 12" stems. Fixture cutoff 35° crosswise, 25° lengthwise. Intensity: Two continuous rows produce approximately 30 footcandles average in service, at desk height.

LITECONTROL *Fixtures*

KEEP UPKEEP DOWN

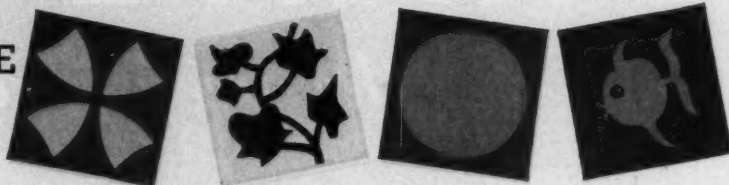
LITECONTROL CORPORATION, 36 Pleasant Street, Watertown 72, Massachusetts

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS

Only Kentile Rubber Tile gives your clients these 3 big advantages!

1. *Exclusive* THEMETILE

Decorative inserts that can
make a Kentile Rubber Tile
floor the only one of its kind.



2. *Many Luxury Colors*

Lighter, brighter beauty to
harmonize with any residential
or commercial color plan or
decorative scheme.

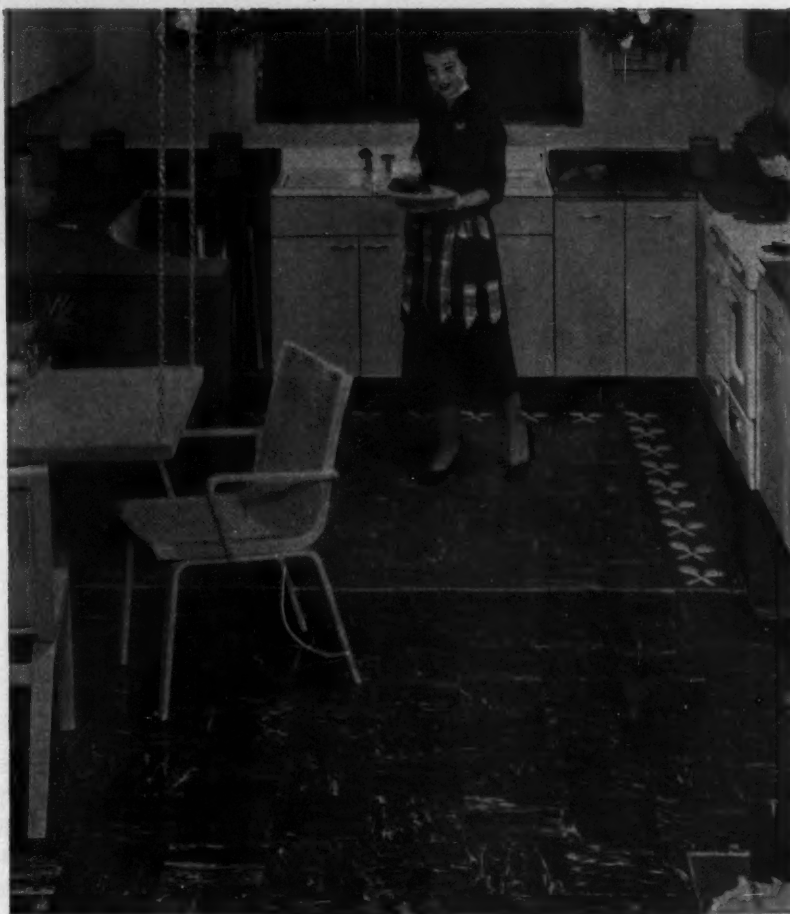
3. *Cushioned Beauty*

The quiet and comfort of rubber
underfoot cushions each step...
banishes aching muscles from
housewife, sales help, customer
or factory worker.

*The following literature is available on re-
quest and is designed to aid in the specify-
ing of floors and walls for residential or
commercial building or remodeling.*

- | | |
|--|---|
| <input type="checkbox"/> Architects
specifications | <input type="checkbox"/> 4-page, 4-color folder
showing Rubber Tile
installations and
reproductions of
color line |
| <input type="checkbox"/> Recommended and
not recommended
uses for Kentile
Rubber Tile | |

Please write the Kentile, Inc. office nearest you.



SPECIFY KENTILE RUBBER TILE BY NAME because of its

...**appearance**—This durable Flooring offers a full selection of modern, decorator colors for all residential or commercial interiors.

...**installability**—Can be applied over any interior smooth wood, metal or concrete surface not exposed to greases and oils—even below finish grade in contact with the earth if waterproofing membrane is used.

...**availability**—Over 3,000 Kentile dealers throughout the country assure prompt attention to your needs.

...**service**—Nine conveniently-located Kentile, Inc. offices; a nationwide system of trained representatives; plus comprehensive technical literature to help solve any flooring problem.

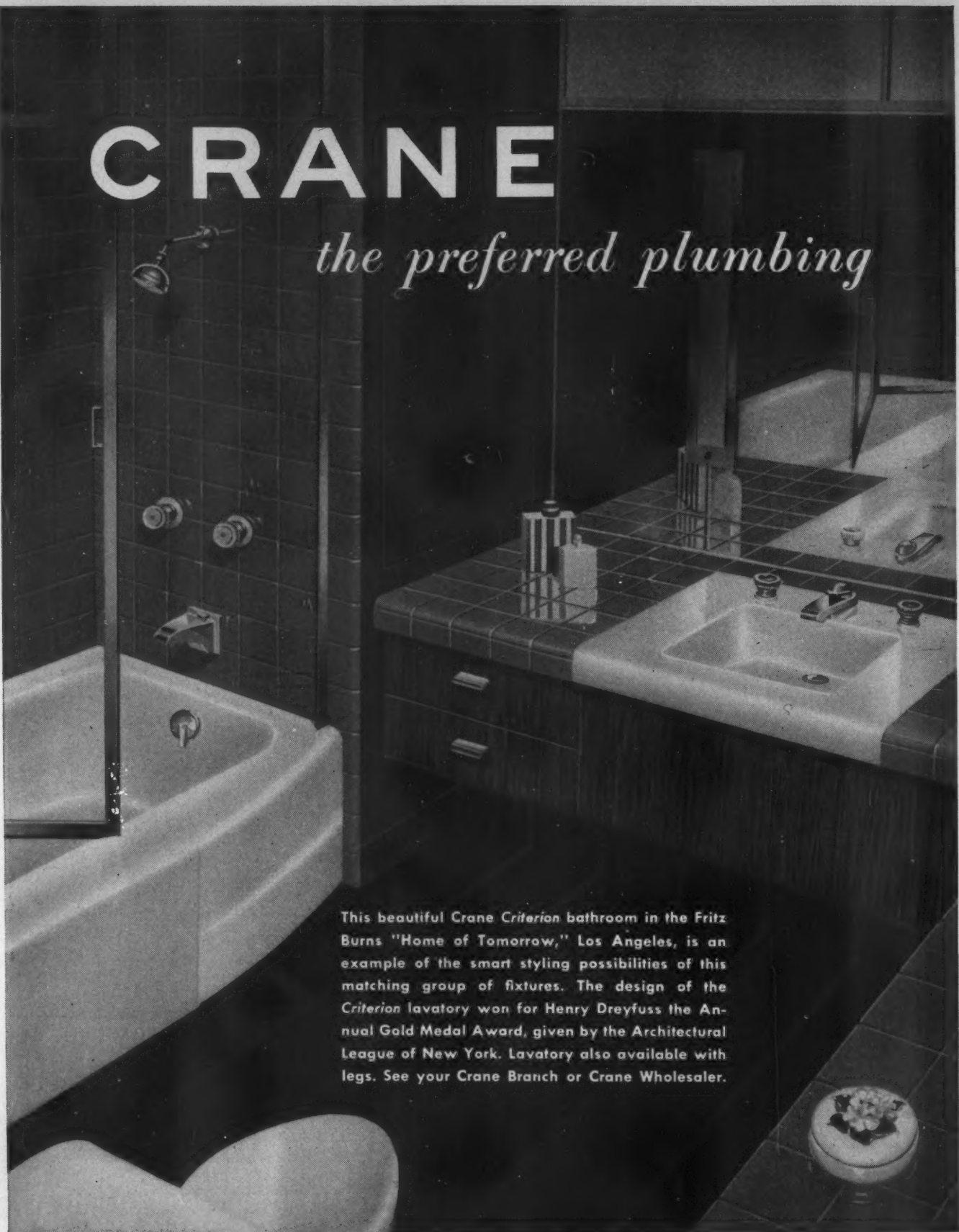
...**low cost**—Prices depend on size and condition of floor, thicknesses chosen and freight rates. Estimates available from any Kentile Dealer—listed under FLOORING in your classified phone directory.

KENTILE RUBBER TILE®

KENTILE, INC., 58 Second Avenue, Brooklyn 15, N. Y.
• 350 Fifth Avenue, New York 1, N. Y. • 705 Architects
Building, 17th and Sansom Streets, Philadelphia 3, Pa. •
1211 NBC Building, Cleveland 14, Ohio • 225 Moore
Street, S.E., Atlanta 2, Ga. • 2020 Walnut Street,
Kansas City 8, Mo. • 1440 11th Street, Denver 4, Colo.
• 4532 South Kolin Avenue, Chicago 32, Ill. • 1113
Vine Street, Houston 1, Texas • 4501 Santa Fe Avenue,
Los Angeles 58, Calif. • 95 Market Street, Oakland
4, Calif. • 452 Statler Building, Boston 16, Mass.

CRANE

the preferred plumbing

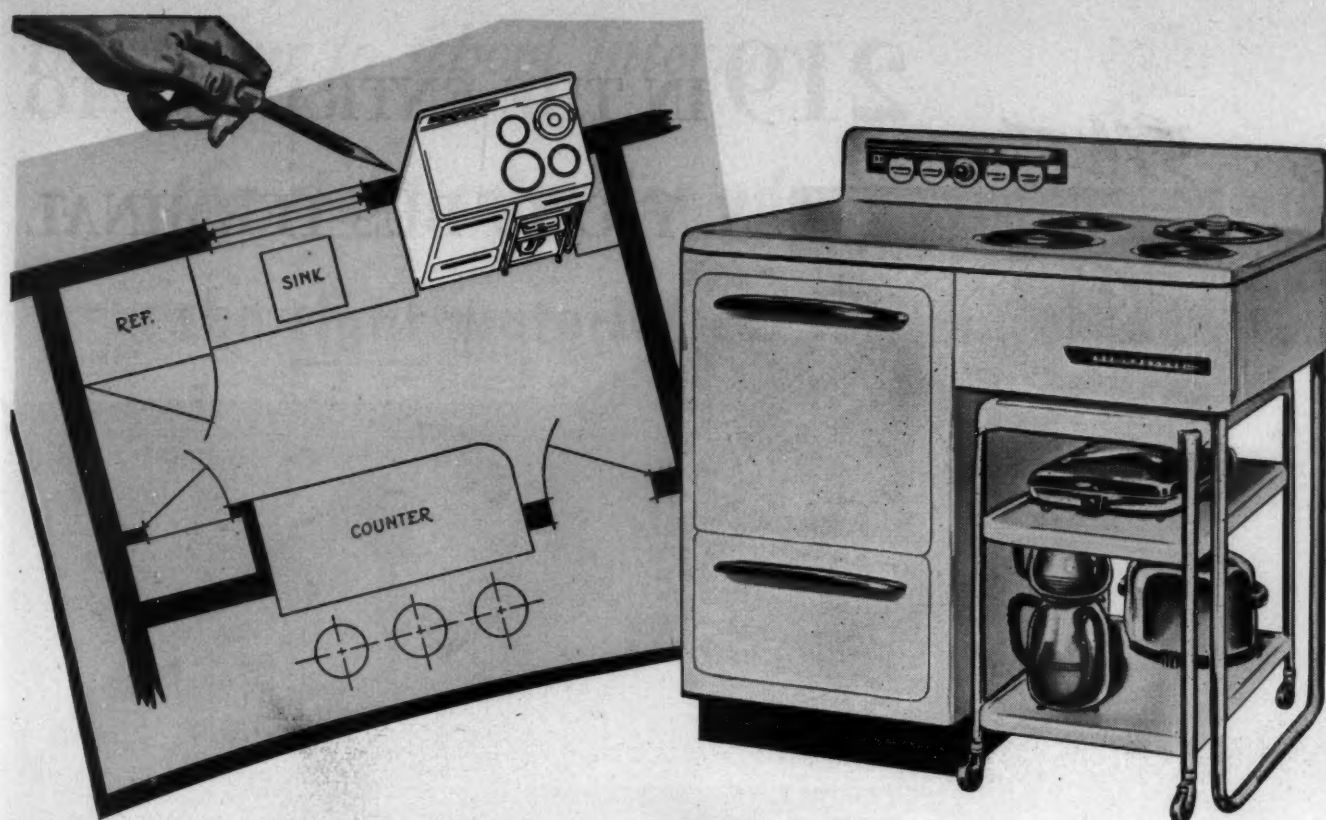


This beautiful Crane *Criterion* bathroom in the Fritz Burns "Home of Tomorrow," Los Angeles, is an example of the smart styling possibilities of this matching group of fixtures. The design of the *Criterion* lavatory won for Henry Dreyfuss the Annual Gold Medal Award, given by the Architectural League of New York. Lavatory also available with legs. See your Crane Branch or Crane Wholesaler.

CRANE CO.

GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO 5
VALVES • FITTINGS • PIPE
PLUMBING AND HEATING

NATION-WIDE DISTRIBUTION THROUGH BRANCHES, WHOLESALERS, PLUMBING AND HEATING DEALERS



You're looking at an **IDEA** that Makes Space Work Overtime

Kitchen storage is at a premium in most small houses and apartments.

One way to help beat this problem is with the Westinghouse Rancho Range. The tuck-away space will accommodate a roll-out table. In effect, you are adding $7\frac{1}{3}$ square feet of table top and shelf area storage in addition to big range cooking capacity . . . without construction cost.

This combination offers the residents flexibility of use. The table can be moved anywhere, can be used as a teacart. Or, the tuck-away space can be used to house a kitchen stool, wastebasket or to straddle a radiator or register.

Here, again, is another example of the originality and adaptability of Westinghouse-designed Appliances. Look through our new 1951 catalog,

you'll find that Westinghouse Appliances offer many opportunities for flexibility in planning homes for electrical living. Send for your free copy, today.

Westinghouse Electric Corporation
Electric Appliance Division
Mansfield, Ohio

Gentlemen:

Please send me a copy of your new 1951 Appliance Catalog.

Name

Firm Name

Address

City

GAR

YOU CAN BE SURE..IF IT'S Westinghouse



REFRIGERATOR



VENT FAN



LAUNDROMAT



DRYER



ELECTRIC SINK



WATER HEATER



WASTE-AWAY

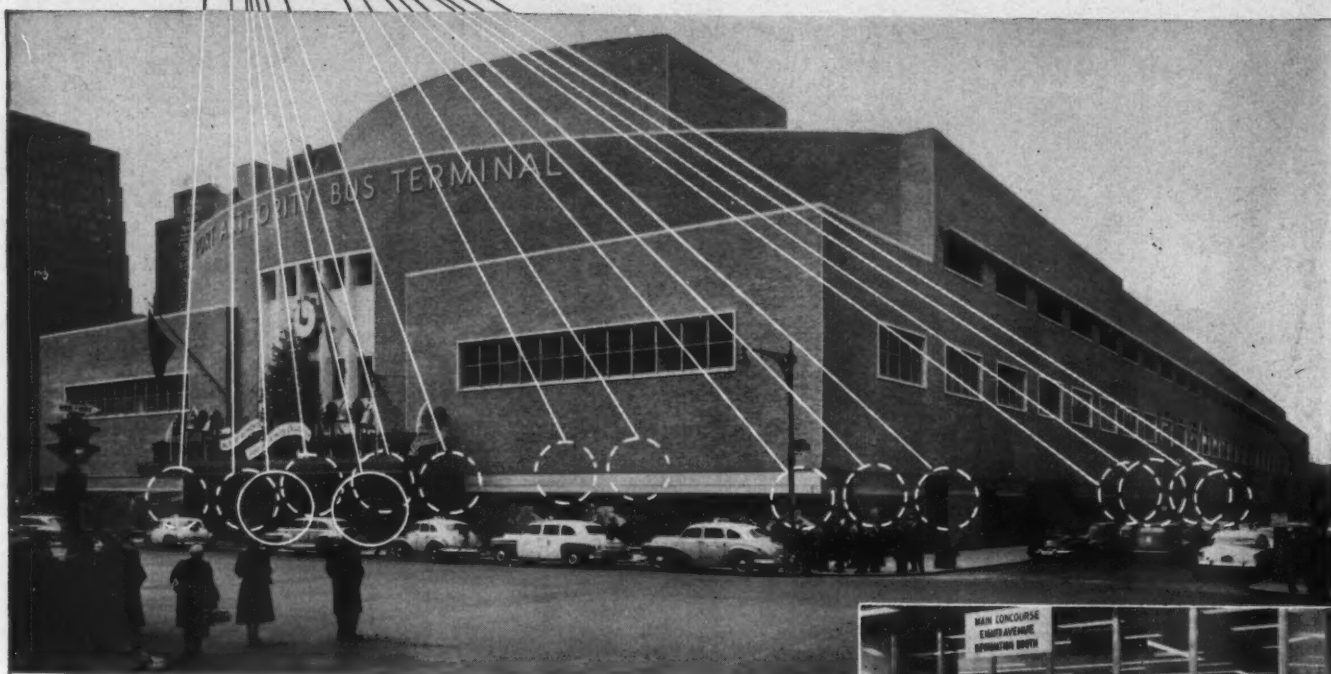


RANGE



the BALANCED DOOR

219 IN THE ENTRANCES TO N. Y. CITY BUS TERMINAL



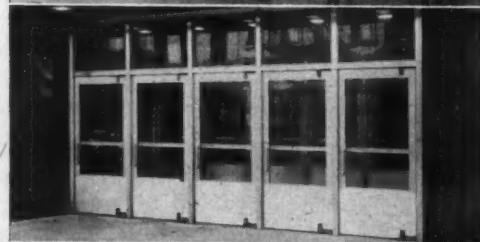
THE LARGEST Balanced Door Installation in the World



The door that lets
traffic through quickly

Ellison
the BALANCED DOOR

ELLISON BRONZE CO.
Jamestown, New York
representatives in 71 principal cities



Important to school interiors...

✓ the right color for educational functions

✓ the right material for low maintenance



Suntile
offers both!

Better lighting and seeing conditions—better emotional environment for study and play—better school morale! These are improvements you can make in schools with interiors of the *right* colors.

Lower maintenance—longer wear—ease of cleaning—protection from fire! These are advantages you can give to school interiors with the *right* material.

You can accomplish these much-to-be-desired objectives for the schools you design and build with one product for walls and floors—*real clay* Suntile.

A new, functionally-correct Suntile color line has been scientifically developed to help schools, and other building interiors, better serve their purposes. In classrooms, cafeterias, laboratories, rest rooms, shower rooms, gymnasiums, corridors and auditoriums, these new Suntile colors can be *fitted to the school function*.

In these same areas, Suntile will protect the school budget with its permanence, its great resistance to the wear and tear of school traffic, and its simple cleaning with soap and water.

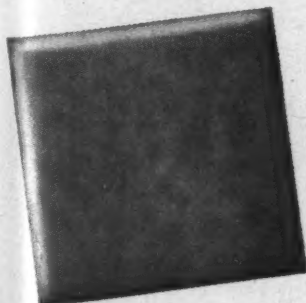
For more information about the new Suntile colors for institutional, industrial and commercial use, ask your Authorized Suntile Dealer for our new color booklet, "Suntile Functional Color Recommendations." Or write us direct, Dept. AR-6, The Cambridge Tile Mfg. Co., P. O. Box 71, Cincinnati 15, Ohio.

WEST COAST OFFICES

The Cambridge Tile Mfg. Co.
470 Alabama Street
San Francisco 10, California

The Cambridge Tile Mfg. Co.
1335 S. La Brea
Los Angeles 19, California

Mottled Dresden Blue 752



Suntile MOTTLED DRESDEN BLUE
A special tile and finish developed for heavy service

Suntile Mottled Dresden Blue is particularly recommended for heavy service in schools, hospitals, industry and commercial establishments. Tests show that blue is a universal favorite. It is cool, fresh and clean looking to the eye. It is soft and restful and provides an ideal background. This Suntile product lends dignified treatment to foyers, lobbies and corridors. In cafeterias, wash rooms, swimming pools, locker rooms, it represents cleanliness itself. The mottled tone helps to overcome monotony, resists soiling and is easy to maintain. Mottled Dresden Blue is a unique addition to the Suntile functional color line developed by The Cambridge Tile Mfg. Co., with the aid of Faber Birren, noted color authority.

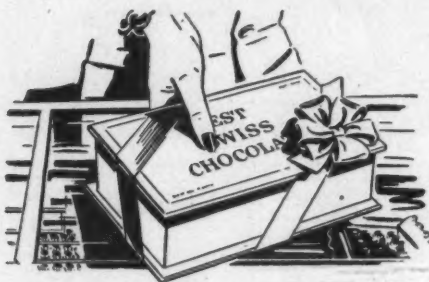


SUNTILE OFFERS YOU BOTH • BETTER TILE • BETTER INSTALLATION

American Blower... a time-honored name in air handling

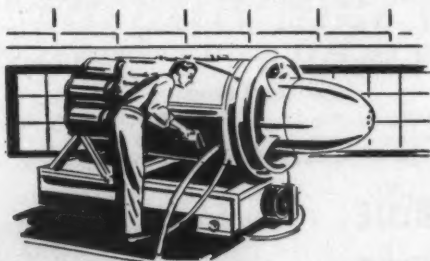


Syracuse, N.Y., too, has a conveniently located American Blower Branch Office to provide you with data and equipment for air handling. You can reach American Blower in Syracuse by calling 3-7058. In other cities, consult your phone book.



DANDY CANDY...

Some mighty tasty Swiss chocolates are made near Syracuse. And we're proud that American Blower HS Fans contribute toward their creamy goodness. In the making of fine candies, as with many other manufacturing processes, precise control of temperature and humidity is vital. American Blower HS Fans are an important part of this and other air conditioning jobs. Their non-overloading power characteristics and remarkable efficiency over a wide range save money.



DEFENSE SENSE...

Why not call on American Blower to help work out the air handling assignments

in your new defense plant? We've plenty of valuable firsthand experience. For example, an important new aircraft engine plant will shortly be using a large quantity of American Blower Sirocco and Vaneaxial Fans. Good ventilation is good business in your plants, too.



FAN PLAN...

If you haven't yet checked the advantages of using an American Blower Attic Fan in your business or home, do so. It's the lowest cost method of comfort cooling we know. No costly building alterations, no refrigerating machinery is used. All American Blower Attic Fans carry Certified Ratings; cost just a few cents a day to operate. Ask your electrical supply house or contact our nearest branch office.

WHATEVER YOUR NEEDS...

American Blower heating, cooling, drying, air conditioning and air handling equipment can do much toward improving comfort and efficiency in business. For data, phone or write our nearest branch office.

AMERICAN BLOWER CORPORATION, DETROIT 32, MICHIGAN
CANADIAN SIROCCO COMPANY, LTD., WINDSOR, ONTARIO

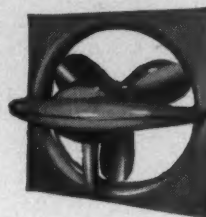
Division of AMERICAN RADIATOR & Standard Sanitary CORPORATION

YOUR BEST BUY AMERICAN BLOWER AIR HANDLING EQUIPMENT

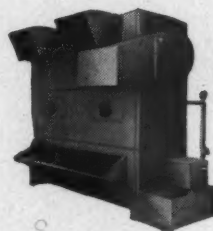
Serving home and industry: AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWAWEE BOILERS • ROSS HEATER • YONAWANDA IRON



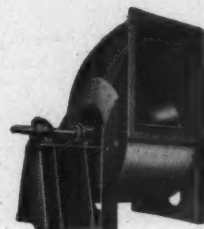
Unit Heaters



Ventura Fans



Air Conditioning Equipment



Industrial Fans



Utility Sets

GOOD BRICKWORK = GOOD DESIGN + GOOD WORKMANSHIP + GOOD MATERIALS



When placed flat in $\frac{1}{4}$ -inch of water for one minute, a brick should gain not more than 20 grams (7/10-oz.)



A good bond was not secured here because the brick on which the mortar was spread had sucked the mortar dry, before the brick was laid.



A good bond was secured here because the mortar was not sucked dry too fast.

WET THE BRICK TO SECURE A WATERTIGHT BOND

WE SUGGEST THAT—

Brick taken from the scaffold should be tested for rate of absorption, as illustrated at top left. If the tested brick gains more than 1 ounce in weight, all brick should be thoroughly wet just before they are used.

A good initial bond between brick and mortar depends (1) upon the suction rate of the brick, and (2) the water-retaining capacity of the mortar.

If the absorption rate of the brick is too high at the time they are laid, they will suck the water out of the mortar too fast, even though the mortar has high water-retaining capacity. A thorough wetting of the brick just before they are laid is the only way to be sure they will have a low enough rate of absorption.

BRIXMENT

Brixment mortar has higher water-retaining capacity and stays soft and plastic longer when spread on porous brick. This helps secure a good, watertight bond.

LOUISVILLE CEMENT COMPANY, Incorporated, LOUISVILLE, KENTUCKY



This Sunshine Wall Makes Students Brighter (*Literally*)

Almost gone is the grey, grim, penned-up classroom. In its dreary place is the warm cheerful softness of sunlight and an atmosphere of freedom. An atmosphere built by a room-length, ceiling-high wall of graceful Fenestra* Windows.

And the most remarkable thing about this beautiful wall of Fenestra Intermediate Steel Windows is not the great areas of light-inviting glass, not the controlled ventilation you get with smooth-swinging vents

—it's the fact that it's not expensive.

Compare the *performance*, the *quality*, the *installed cost*, the *maintenance cost*, of *standardized* Fenestra Windows with any window on the market.

Get *standardized* Fenestra Intermediate Steel Windows—engineered to cut the cost of building.

For further information, call your Fenestra Representative (listed in the yellow pages of your phone book), or write to us.

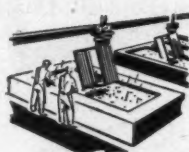
*®

Fenestra WINDOWS • PANELS • DOORS



Fenestra Hot-Dip Galvanized Windows

No Maintenance Problems! No More Painting!



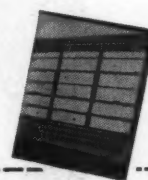
ENGINEERING—Window fabrication is specially engineered.

GALVANIZING AND BONDERIZING—Hot-Dip galvanizing is done in Fenestra's own special new plant (the only one of its kind in the country) *after* assembly of frames and assembly of ventilators, so the *whole* surface gets a uniform, protective coat of zinc. Bonderizing gives the galvanized surface a beautiful appearance and prepares it to hold decorative paint if desired.

SOLVE MAINTENANCE PROBLEMS—No more painting!

FREE AUTHORITATIVE BOOK ON CLASSROOM LIGHTING

Proved methods of getting better classroom daylighting, based on two years of research by Lighting Expert Professor R. L. Biese, Jr., who reported the findings of his staff to the Illuminating Engineering Society, September, 1949. A well-illustrated, simply-written, 16-page guide to help you get the best fenestration for your new school—economically. Send for it today.



engineered to cut the cost of building

DETROIT STEEL PRODUCTS COMPANY
Dept. AR-6, 2252 E. Grand Blvd.,
Detroit 11, Mich.

Please send immediately your free new booklet
on Better Classroom Daylighting.

Name

Company

Address



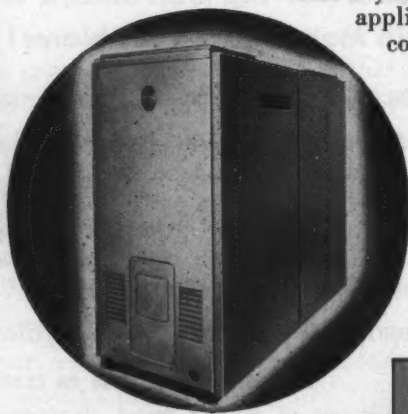
Now you can do something about the weather

This is how you can help your client obtain *complete* comfort indoors, day and night, through *all* the seasons.

Specify Bryant *All-Weather Conditioning* for refreshing summer cooling . . . automatic gas heating in winter . . . stimulating air circulation all the year . . . and *independent, automatic control of humidity* that eliminates that cold, "clammy" feeling.

The Bryant *All-Weather Conditioner* is designed for ease of installation and maintenance. All basic equipment and controls are concealed within a single, compact steel jacket. Cooling system, using safe, odorless Freon F-12, meets all code requirements. *Hevigage* Heat Exchanger and built-in draft diverter of heating component are porcelain-enameled for extra long life. *Five* different safety devices throughout the unit provide complete protection.

Add *value* and *livability* to your designs with Bryant *All-Weather Conditioning*. For application data and specifications, contact the Bryant Distributor in your locality or write direct. Bryant Heater Division, Affiliated Gas Equipment, Inc., Dept. 93, 17825 St. Clair Ave., Cleveland 10, Ohio.

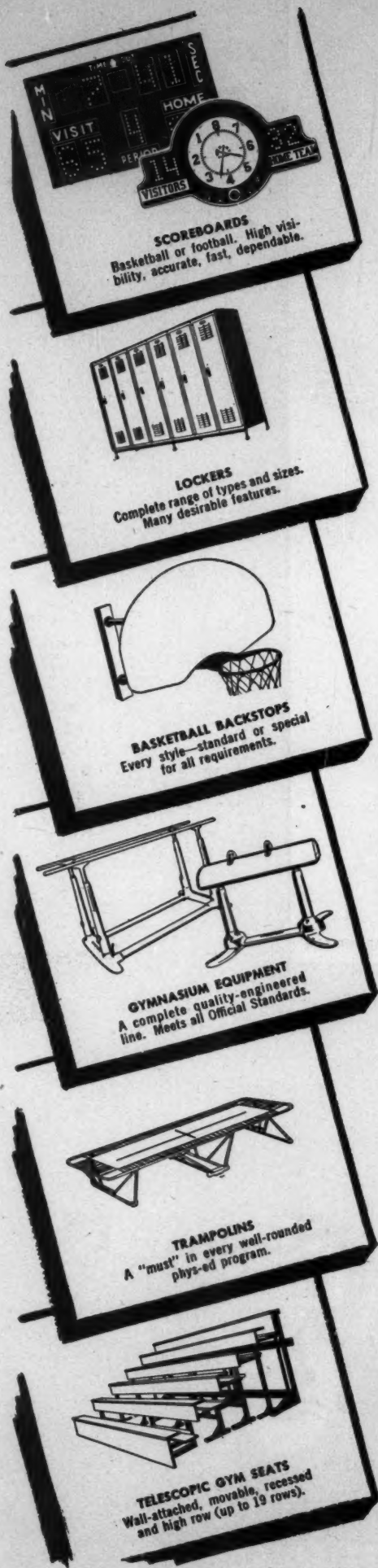


Bryant Model 576 All-Weather Conditioner. Made in 1½, 3 and 5-ton cooling capacities. Gas heating inputs from 100,000 to 200,000 Btu per hour, for use with all gases.



Your single source of supply for everything in gas heating equipment!





if ... it's for a
Gymnasium...

Specify
MEDART

Whether you need physical fitness apparatus, backstops, scoreboards, telescopic gym seats or lockers, there is no point in being satisfied with less than the best.

Acceptance of Medart Equipment by thousands of leading schools and colleges — its use in Olympic Games and championship meets — has been earned because of superior design, skillful craftsmanship and fine quality. These, and 78 years of experience, are the "plus" values built into every unit of Medart Equipment — extra values that Medart users never pay for.

When you specify Medart — and insist on Medart — you can be confident you will get the best — equipment that meets or exceeds every Official Standard. No finer equipment is made.



Ask For Literature On
Any Or All Medart Equipment

FRED MEDART PRODUCTS, INC.
3540 DE KALB ST. ST. LOUIS 18, MO.
For 78 Years The Standard Of Quality



CURTIS



SYSTEM

PAT. APPLIED FOR

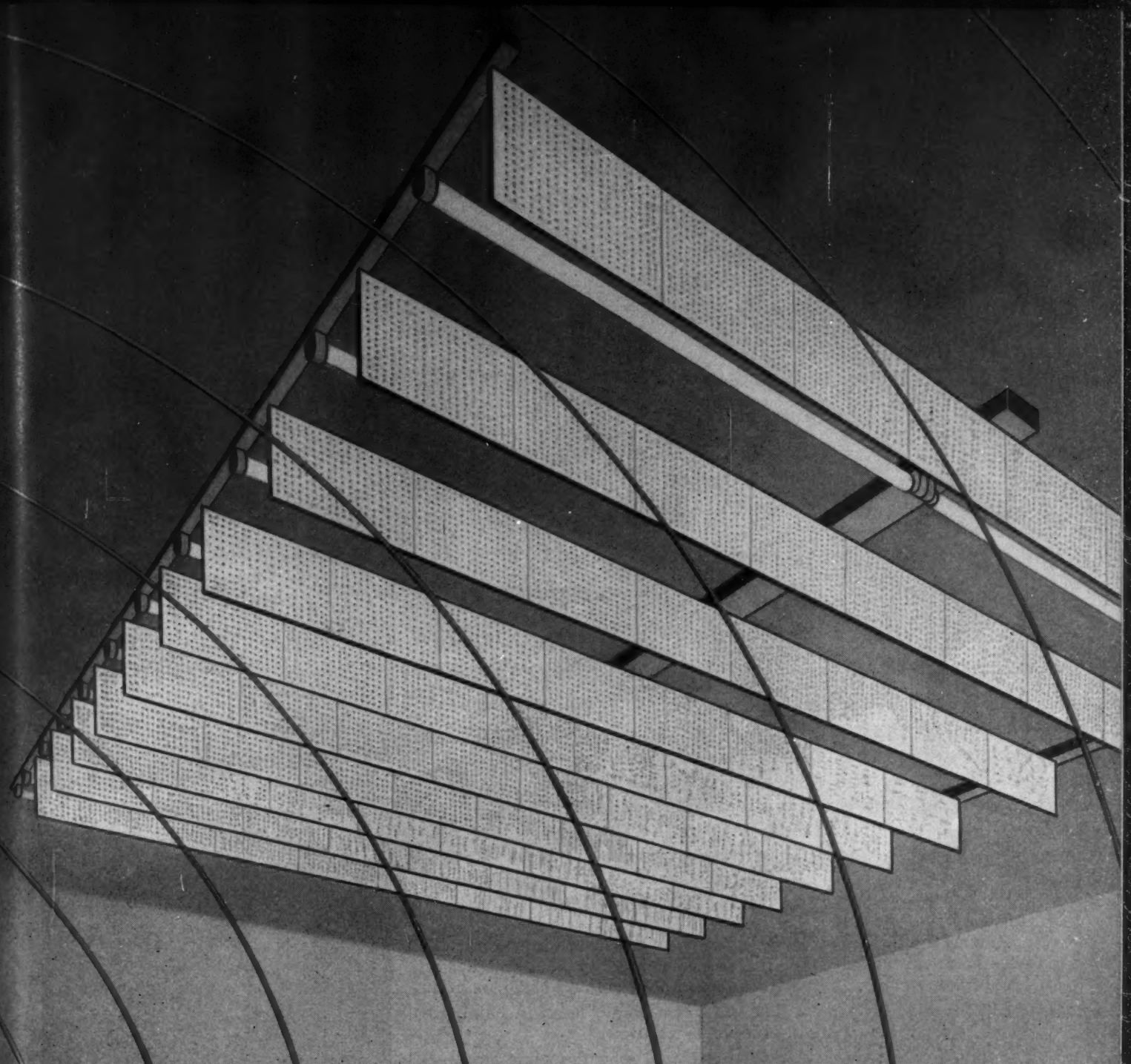
CURTIS
LIGHTING, INC.

6135 WEST 65TH STREET, CHICAGO 38, ILLINOIS



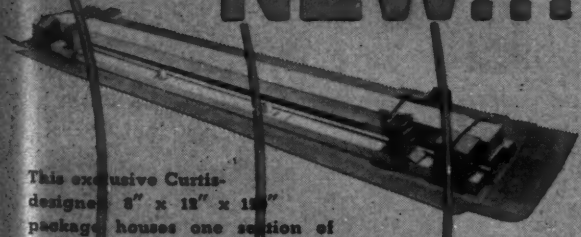
This exclusive
designer
package is
a complete
which covers

SALES OFFICE
MILWAUKEE



NEW...

This exclusive Curtis-designed 8" x 12" x 15" package houses one section of a completely wired lighting assembly which covers a ceiling area of 160 sq. ft.



The revolutionary CURTIS LIGHT AND SOUND CONDITIONING SYSTEM offers an entirely new concept of lighting. This Curtis System provides recommended levels of quality illumination with acoustical treatment which eliminates excessive sound reflections and the annoyance and distractions which sound creates.

Write for information about the Curtis Light and Sound Conditioning System's unlimited applications.

SALES OFFICES: ATLANTA • BALTIMORE • BOSTON • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DENVER • DETROIT • INDIANAPOLIS • KANSAS CITY • MIAMI
MILWAUKEE • MINNEAPOLIS • NEW ORLEANS • NEW YORK • PHILADELPHIA • PITTSBURGH • ROCHESTER • SAN FRANCISCO • SEATTLE • ST. LOUIS • TORONTO

ILLINOIS

"We can't go wrong — it's **radiant heated**"



Steel pipe is first choice
for radiant heating

Among the thrills that come to all of us but "once in a lifetime", who does not remember that first Christmas together . . . or the baby's first birthday cake . . . or the first brand-new, shining car?

But the biggest thrill of them all came when, hand in hand, we stood before that just purchased home-of-our-own!

Young folks today (and older ones, too) face the same moments of decision that we did when buying or building a new home. But, when they find their dream house is to have Radiant Panel Heating, they know it was designed by those acquainted with the latest in home building ideas. Radiant Heating becomes a symbol of sound value!

And when the Radiant Panel Heating coils are of Steel Pipe, success is assured. For Steel Pipe has all the desirable characteristics of durability, weldability, formability, and maximum economy . . . proved through more than 60 years of service in domestic heating systems!

A 48-page color booklet "Radiant Panel Heating with Steel Pipe" is yours for the asking. Write for it . . . it's free.

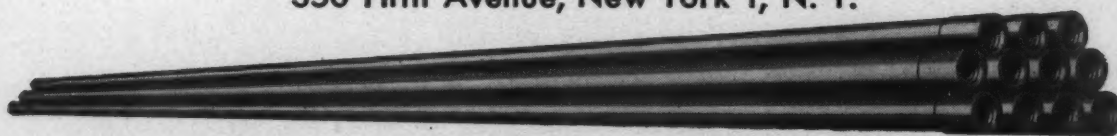


Steel Pipe coils for Radiant Panel systems may be used with equal effectiveness in floor, wall, or, as shown above, ceiling installations.

COMMITTEE ON STEEL PIPE RESEARCH

AMERICAN IRON AND STEEL INSTITUTE

350 Fifth Avenue, New York 1, N. Y.



Announcing

Kodagraph Autopositive Paper *Translucent*

a new photographic intermediate material that speeds up print-making...drafting



30% more translucent than "regular" Autopositive
—for faster quantity-print production

Here is a new type of Kodagraph Autopositive Paper... especially designed to give you increased speed in large-volume print production.

Like "regular" Autopositive, *Kodagraph Autopositive Paper, Translucent* can be handled in room light... prints directly to a positive in familiar reproduction equipment... is processed in standard photographic solutions. It reproduces original detail sharply, crisply... and its dense black photographic lines will not fade, smudge, or wear off.

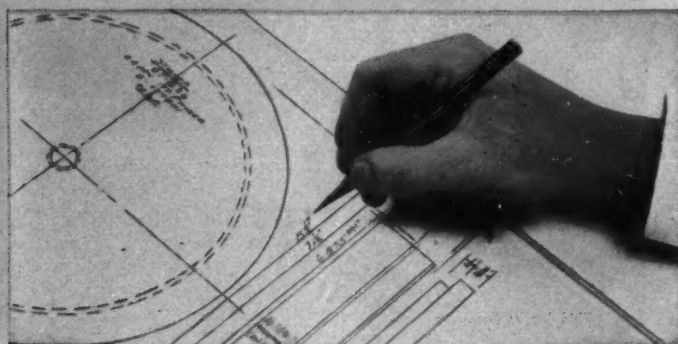
But this new paper has an important "extra" which you'll spot at first glance—an *entirely new base*... remarkably translucent... remarkably durable.

Its 30% extra translucency enables you to turn out sparkling blueprints or direct-process prints faster, which lowers production costs considerably in large-volume work. *And it makes practical and convenient* the general use of "reverse-reading" intermediates (which assure final prints of top quality).

Its extra durability simplifies the handling of larger-size sheets... offers increased resistance to wear and tear in print-making and drafting.

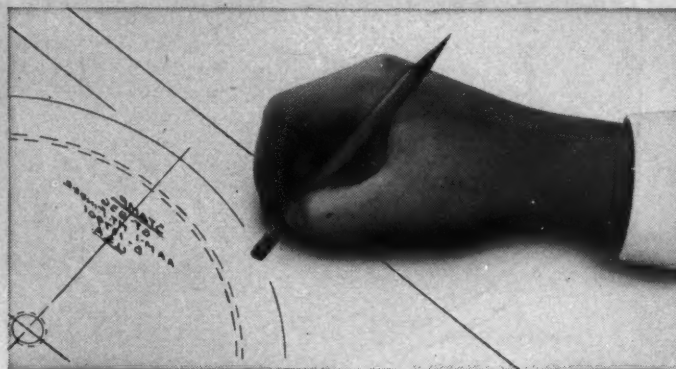
MAIL COUPON TODAY

... for full details on Kodagraph Autopositive Paper, *Translucent*. Intermediates on this new paper (which you or your commercial blueprinter can make) may well prove the key to important savings in your drawing reproduction operations.



So translucent... you can easily read
details on opposite side

Reverse-reading intermediates, while better for print-making, used to be a problem in the drafting room. But no longer! Now the draftsman simply turns this highly translucent paper over... reads through the back—sees every detail sharp and clear. Additions, when necessary, are also made on this side.



Another drafting "PLUS." Unwanted detail can be removed from an Autopositive Translucent print in seconds with an ordinary eraser, without appreciable effect on the base, when the area involved is moistened slightly.

EASTMAN KODAK COMPANY, INDUSTRIAL PHOTOGRAPHIC DIVISION
ROCHESTER 4, N. Y.

Gentlemen: Please send me a copy of your new free folder describing Kodagraph Autopositive Paper, *Translucent*.

Name _____ Position _____

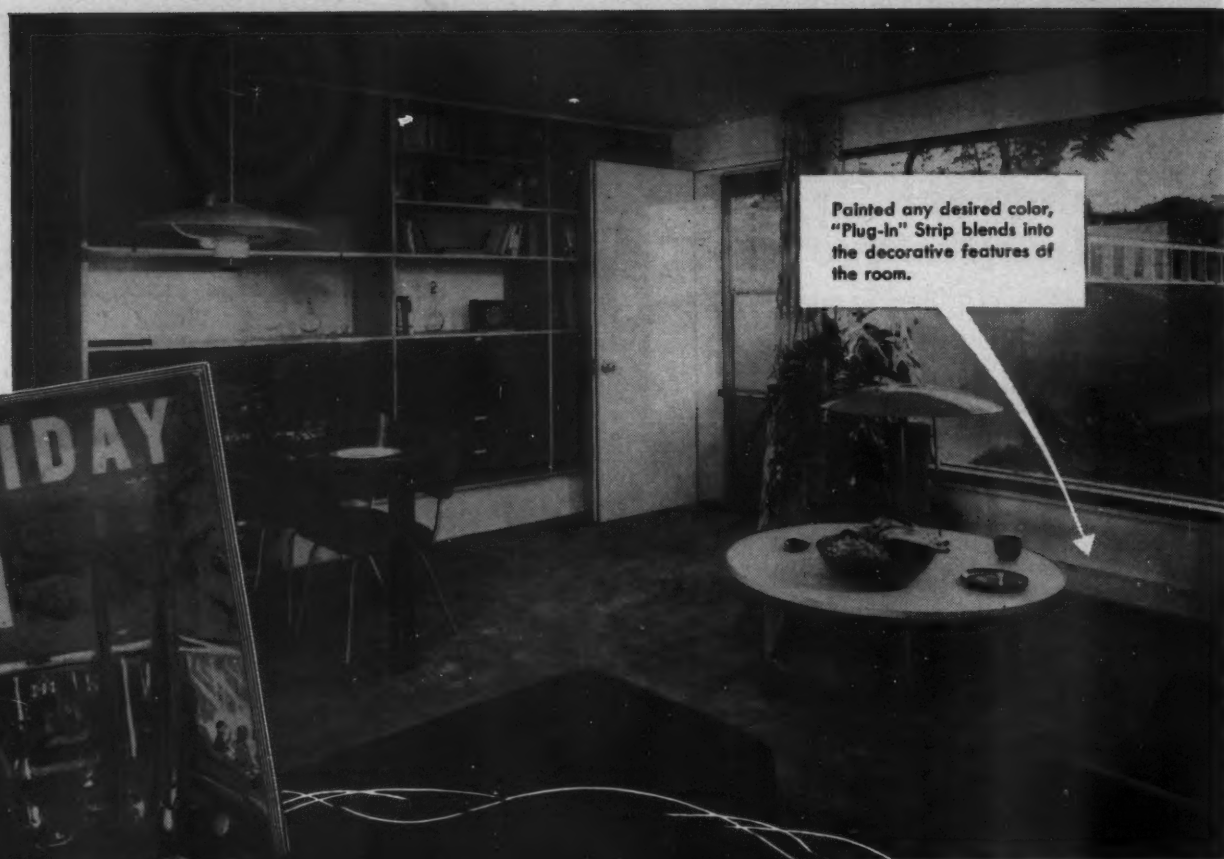
Company _____

Street _____

City _____ State _____

Kodak
TRADE-MARK

Flexible furniture arrangement is assured at Holiday House, thanks to "Plug-In" Strip. Outlets all around the room permit the owners to plug in lamps, radios, television sets anywhere.



Painted any desired color, "Plug-In" Strip blends into the decorative features of the room.

Holiday House

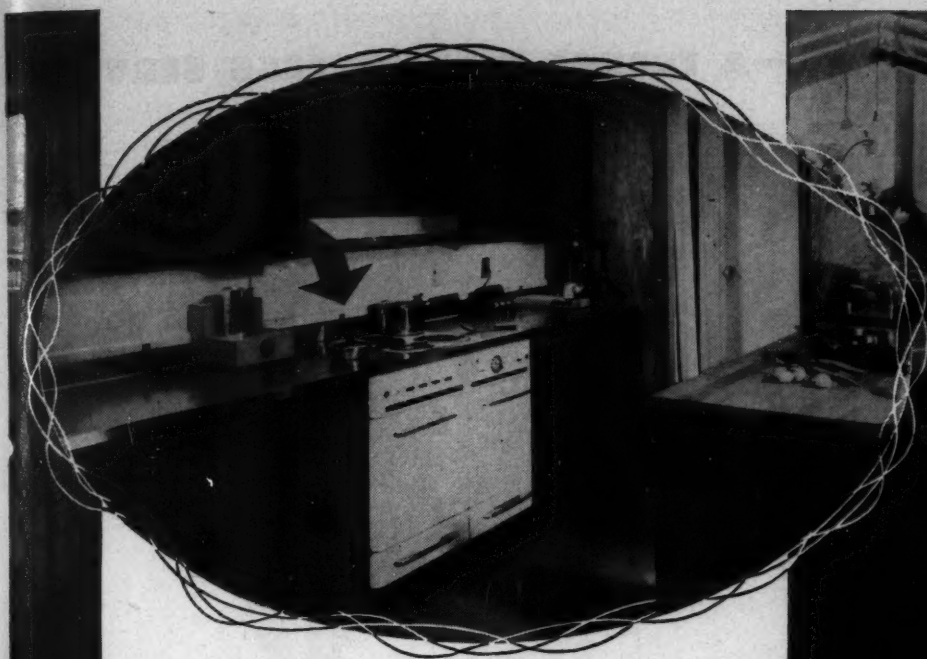
*for Easier, more Luxurious
Electrical Living*

Sponsored by Holiday Magazine, the "Holiday House" at Quogue, Long Island, was designed for easier, more luxurious living. The architect visualized "a structure in which science would replace servants, a house with so many advanced appliances that its leisure qualities would be literally built in."



It was natural that National Electric's "Plug-In" Strip should be specified for Holiday House because it represents the *ultimate* in electrical convenience, providing a spread of electrical outlets every 18" along baseboards and counter tops. There are 129 such outlets on the first floor of Holiday House, offering the lucky owners electrical convenience *wherever, whenever* it is needed.

"Plug-In" Strip is a winner of The 1951 Lewis & Conger Home Safety Award

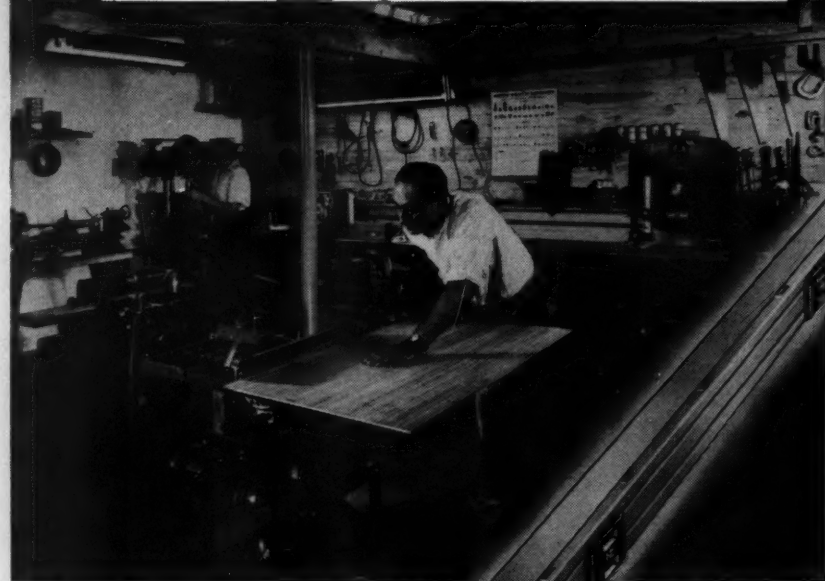


There's an electric outlet wherever
it's needed in the kitchen.

Photographs: © Ezra Stoller



Outlets every 18" in the
master bed room. Neat,
attractive, convenient.



"Plug-In" Strip provides
electric outlets with
grounding safety for
portable and power tools
in Holiday House's
basement workshop.



"Plug-In" Strip is a professional multi-
outlet wiring assembly that is

- ARCHITECTURALLY CORRECT
- EASY TO INSTALL
- SAFE AND STRONG

It is a modern, streamlined baseboard
trim. No screws or soldered connec-
tions. Lifetime, fool-proof receptacles.
Tamper-proof capping is permanently
locked on. Outlets every 6" or 18".

Now it is impossible to have inconvenient electric service. There
are three types of "Plug-In" Strip available: Type CF-2, for constant
service; Type CF2-G, for grounding equipment; and Type CF-3, for
either constant service or automatic wall switch control. All listed
by Underwriters' Laboratories, Inc.

WRITE FOR OUR CATALOG.

Everything in Wiring Points to

National Electric
PRODUCTS CORPORATION
1327 CHAMBER OF COMMERCE BLDG., PITTSBURGH 19, PA.



And in Pittsburgh - A FUTURE OF FAULTLESS SERVICE



525 WILLIAM PENN PLACE BLDG.:
Pittsburgh, Pa.

ARCHITECTS:
Harrison & Abramovitz
W. Y. Cocken

MECHANICAL ENGINEER:
Meyer, Strong & Jones

PLUMBING CONTRACTOR:
Sauer, Inc.

Heralding the renaissance of Pittsburgh's "Golden Triangle" is the impressive new 41 story home of the U.S. Steel Corporation and the Mellon National Bank and Trust Company. Equipped with DELANY diaphragm type FLUSH VALVES, a total of over 1,000 sanitary fixtures will service more than 5,000 individuals daily. It follows that in so large an operation, minimized maintenance is a prime factor. After a screening of all the related design requisites, it is not surprising that DELANY foot pedal operated FLUSH VALVES and VACUUM BREAKERS were insisted upon.



Attention is directed to the exclusive, conical body structure of the DELANY Foot Pedal. Designed to slip the impact of the severest foot thrust, its superior capacity to resist unintentional abuse over former treadles is easily recognizable. Furthermore, foot thrust in any direction can be accommodated since the pedal oscillates freely, in not just a single plane, but universally.

COYNE & DELANY CO. • 834 KENT AVE. • BROOKLYN, NEW YORK

Since 1879

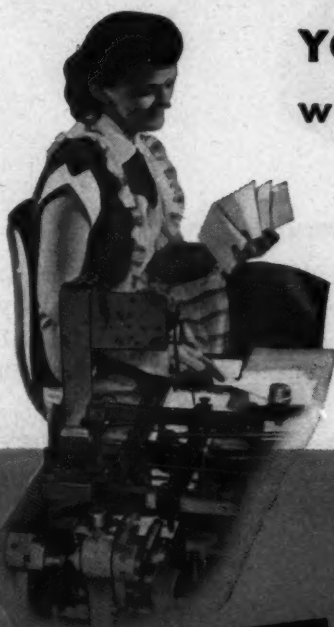
DELANY
Flush
VALVES



YOU SPECIFY WITH CONFIDENCE when your choice is American-Olean Tile

Nothing takes the place of real clay tile for radiant, rugged lifetime beauty without a penny's worth of maintenance expense . . . And there is no finer tile you can specify than American-Olean.

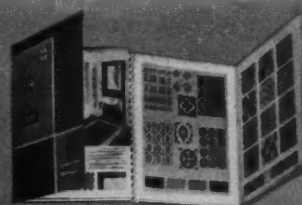
- Here is one of many reasons you can specify American-Olean tile without a worry. This machine sizes and measures A-O tile so you can be sure all tile shipped on your order is dimensionally accurate.



*With Men Who Know,
the Choice is A-O*

FREE! The Color Book Of Tile

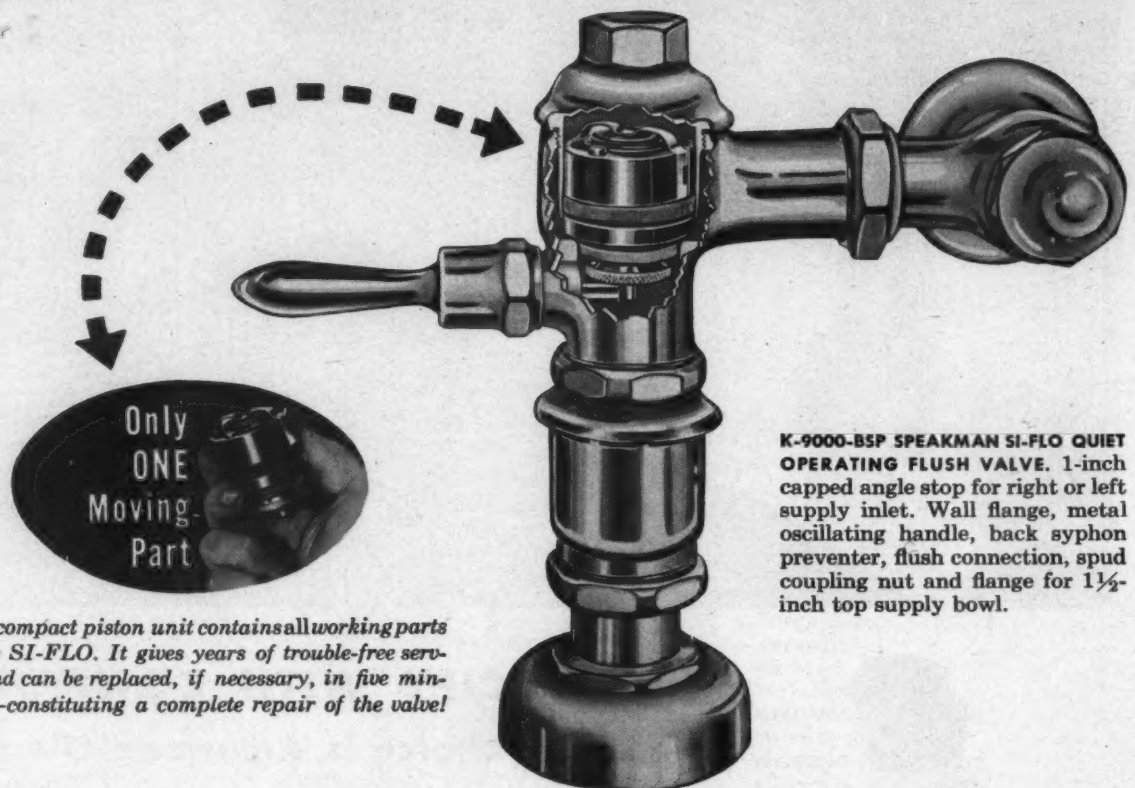
QUICKEST, EASIEST WAY TO SPECIFY TILE—The most complete, most helpful tile book ever produced, 100 pages, including 30 of typical installations in full color; plus color charts of wall and floor tile, trim and hand decorated inserts. Full architectural data and ready-to-use specifications. If you have not yet received your copy, or if you need another, write today.



AMERICAN-OLEAN TILE COMPANY

Executive Offices: 925 Kenilworth Ave. • Lansdale, Penna.

No Hammer...
No Roar...
No Rumble...
IN SPEAKMAN *Si-Flo* FLUSH VALVES
... the logical choice for all types of installations



This compact piston unit contains all working parts of the SI-FLO. It gives years of trouble-free service and can be replaced, if necessary, in five minutes—constituting a complete repair of the valve!

K-9000-BSP SPEAKMAN SI-FLO QUIET OPERATING FLUSH VALVE. 1-inch capped angle stop for right or left supply inlet. Wall flange, metal oscillating handle, back syphon preventer, flush connection, spud coupling nut and flange for 1½-inch top supply bowl.

• ***Quiet Operating***

Even under supply pressures as high as 100 lbs. per square inch, it remains quiet throughout long operating life. It does away with hammering, knocking, line throttling and closing noises that are embarrassing annoyances.

• ***Easily Installed***

Adjustable threaded connection between valve body and stop lowers the cost of installation—permits 3/8" plus or minus (3/4" overall adjustment) against regular roughing-in of 4 3/4 inches.

• ***Easily Serviced***

The patented, long-wearing piston unit—the trouble-free heart of the valve—may be replaced—if necessary—in less than five minutes. No need to have this flush valve inoperative for hours.

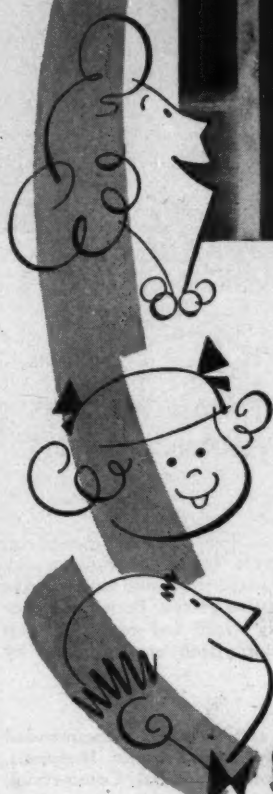
There's a *Si-Flo* Flush Valve for every type of installation. For complete information, see your regular plumbing supplier or send for our booklet S-4 or consult our General Catalog S-46.

In Our Eighty-second Year
SPEAKMAN
SHOWERS AND FIXTURES
SPEAKMAN COMPANY, WILMINGTON 99, DELAWARE



WEST COAST WOODS FOR TODAY'S BETTER SCHOOLS

DOUGLAS FIR • WEST COAST HEMLOCK
WESTERN RED CEDAR • SITKA SPRUCE



There are many good reasons for the growing trend toward modern, one-story schools of wood. More and more American communities are finding these structures offer an immediate and economical solution to today's classroom shortage.

You can confidently recommend one-story schools of West Coast Woods because they are attractive and practical... readily adaptable to future needs. Moreover, they are safe...ground level doors permit rapid evacuation in case of emergency. From every standpoint, you'll find it makes good sense to build one-story schools of West Coast Woods.

There's a RIGHT WAY to do everything...Build RIGHT with

WEST COAST WOODS

Douglas Fir
West Coast Hemlock
Western Red Cedar
Sitka Spruce

Lumber of Quality Produced by Members,
WEST COAST LUMBERMEN'S ASSOCIATION

Send for
This FREE
Booklet



You will be interested in seeing a copy of "Today's Better Schools Are Built of Wood."

Send for free copies for yourself and your associates.

WEST COAST LUMBERMEN'S ASSOCIATION, Room No. 33
1410 S. W. Morrison, Portland 5, Oregon

Please send free copy of "Today's Better Schools Are Built of Wood."

Name _____

Address _____

City _____ Zone _____ State _____



Nothing protects
against sudden
shower scalds

like **SAFETYMIX**



GIVE THEM THIS EXTRA SHOWER SAFETY
... AT NO EXTRA COST!

SHOWER SAFETY

... No scalds ... no chills. Protects against both sudden scalds and chills. Even with pressure fluctuations up to 85%, Safetymix keeps shower temperature constant. Automatically shuts down flow when either hot or cold water fails.

LIFETIME QUALITY

... Only one moving part. Designed and manufactured by engineers and approved by architects, pressure-actuated Safetymix is the most rugged shower control valve made. Only Safetymix has the patented Flow Control Spindle with but one moving part to control all valve functions.

FREE FROM MAINTENANCE

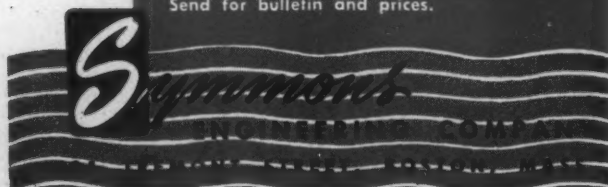
... Easy to fix as a faucet. Safetymix is designed with self-cleaning action to prevent clogging. Saves water. All parts accessible from front.

COSTS NO MORE

Because it costs no more than ordinary shower valves and is guaranteed to be entirely as represented, architects specify Safetymix and engineers recommend it. Safetymix gives the extra safety and satisfaction that builds better reputations. Safetymix is used in thousands of schools, colleges, hotels, industrial plants, institutions and better homes from coast to coast.

See Sweets Architectural File or your Domestic Engineering Catalog.

Send for bulletin and prices.



PAULDING'S
better brackets

**KAOLITE WALL BRACKETS
WITH CONVENIENCE OUTLETS**

PRACTICAL AND POPULAR

Smooth, white, sanitary, easy-to-clean, fine electrical porcelain, made in Paulding's own pottery. Simple, modern design, quality features and dependable performance make these two wall bracket fixtures outstanding values at competitive prices. Both have convenience outlets. Both are completely wired and equipped with mounting straps ready for installation. Both are approved by Underwriters' Laboratories.

PAULDING ELECTRICAL PORCELAIN

Standard since 1911 — is approved by architects and recommended by contractors and engineers. Specify it for Schools, Hospitals, Hotels, Homes, Restaurants, Institutions, Industrial, Commercial, Government and Municipal establishments.

SPECIFICATIONS AND RATING

Both the #1760 and the #1770 are for 3 1/4" outlet box and Gem X box. Both bases measure 6" x 3 1/8". Both have copper screw shells and long life mechanisms: Convenience outlets have double wipe contacts. Pull Chain rated @ 250W-250V; Keyless: 660W-250V; Convenience Outlet: 15A-125V or 10A-250V.

MODELS AVAILABLE	#1760, 1770 — Pull Chain with Convenience Outlet
	#1761, 1771 — Keyless with Convenience Outlet
	#1762, 1772 — Pull Chain no Outlet
	#1763, 1773 — Keyless no Outlet
	770, 770 — Pull Chain Replacement Socket

Write us direct for prices.

See Paulding's Line in SWEET'S Architectural File.

JOHN I. PAULDING, INC.
NEW BEDFORD, MASSACHUSETTS





Listed by
Underwriters' Laboratories

AS NEW,
MODERN,
EFFICIENT
AS IT
LOOKS!

Now . . . at long last . . . fire alarm stations can be as trim, smart, functional as the rest of a modern structure. No need to disfigure walls with ugly, bulky, old-fashioned equipment.

Not when you can install Edwards, the first really new fire alarm station in 20 years and the smallest coded station on the market. With a maximum projection of only 1 7/8 inches, Edwards Fire Station literally hugs the wall. Simple, dependable, foolproof, too.

One swift pull of the handle places the call. No chance of non-alarm due to haste or panic! Give *your* buildings the new beauty and efficiency of an Edwards Fire Alarm System. Write Dept. A-6, Edwards Co., Inc., Norwalk, Conn., for free illustrated bulletin today. In Canada: Edwards of Canada, Ltd.

EDWARDS®
*World's most reliable time,
communication and protection products*

NORFOLK CATHOLIC HIGH SCHOOL, NORFOLK, VA.
Auditorium wing at left, gymnasium wing at right. Cafeteria wing in rear. Under the jurisdiction of the Bishop of Richmond, the Most Rev. Peter L. Ireton. Diocesan superintendent, the Rev. J. Louis Flaherty. Architects: Gleeson and Mulrooney, Philadelphia. Associate Architect: T. David Fitzgibbon, Norfolk. Consulting Engineer: William G. Flurer, Philadelphia. Heating Contractor: Coley and Petersen, Norfolk.



Webster Walvector in auditorium on separate zone, one of five, permits use for evening parish affairs without heating entire school.

Webster Walvector in classroom spreads the heat along outside wall...no drafts...no hot spots.



WEBSTER HEATING EQUIPMENT FOR SCHOOLS

RADIATION

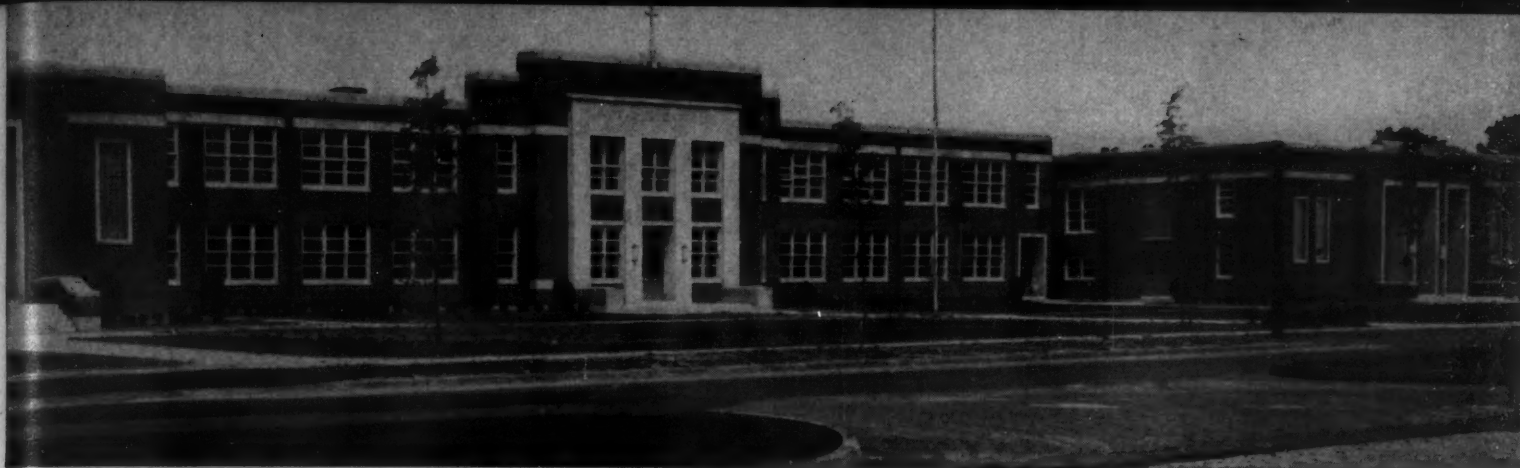
Webster Walvector Radiation.
Webster-Nesbitt Unit Heaters.
Webster System Convectors
Radiation : : Webster Base-board Heating

HEATING CONTROLS

Webster Moderator Systems of
Steam Heating : : Webster Continuous Flow Hot Water Heating Control : : Webster Control Valves

STEAM HEATING SPECIALTIES

Webster Thermostatic Traps : : Webster Radiator Valves
Webster Heavy Duty Drip Traps : : Webster Dirt Strainers



Solves Heating Design Problems in **500-STUDENT HIGH SCHOOL**

The designers of the new Norfolk Catholic High School were able to attain long sought objectives by using Webster Walvector Radiation and forced hot water for the basic heating need, supplemented by Webster Convectors and Webster-Nesbitt Unit Heaters.

Economy in first cost was helped by the simplicity of Webster Walvector with its reduction in distribution piping and use of only limited space, well illustrated in the auditorium view at the left.

Comfort was assured by spreading the heat the full length of the outside wall . . . no drafts . . . no hot spots . . . a minimum of covered exposed piping, evident in the class room view at the left below.

Minimum operating costs for the years to come were obtained by division of the installation into five zones and by using Webster-Nesbitt Unit Heaters with separate controls in the cafeteria-kitchen.

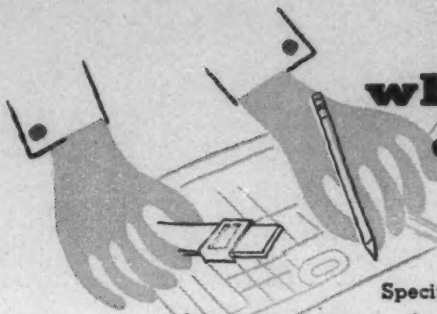
This installation has been through its first full heating season and has proved the soundness of the designers' conception. Webster Walvector has been installed in a long list of new school buildings. For information about Walvector and other Webster products for school heating, call the Webster Representative or write us. Address Dept. AR-6

WARREN WEBSTER & COMPANY
Camden 5, New Jersey : : Representatives in Principal Cities
In Canada, Darling Brothers, Limited, Montreal

Webster **WALVECTOR** For Steam and Hot Water Heating

Webster Walvector in girls' locker room. Webster Convector in toilet.





whatever you demand of a wall tile you'll find in Crown Tile

Specifying a material like wall tile normally is predicated on fulfillment of twin requirements: function and decoration. Yet in meeting these requirements, the tile's cost must not be disproportionate to the overall building costs per square foot.

These requirements form the only just criteria for measuring a product's competence. It is against these criteria that we ask you to assay Crown Steel Wall Tile.

We suggest such measurement not without assurance, for Crown Tile installations have proved their competence in many thousands of residential, commercial, institutional and industrial applications.

Crown Tile is **durable**. It's wide selection of colors are strong, and will not fade. And Crown Tile's economy can not be matched by **any** tile, no matter its type.

These facts are borne out by performance. As further proof, however, witness Crown Tile's bonded guarantee, behind which stand two companies of unquestioned integrity.

In all fairness to your clientele and yourself, Crown Steel Wall Tile deserves your critical investigation.



THE OHIO CAN & CROWN COMPANY makers of STEEL WALL TILE
MASSILLON, OHIO

Wayne Stands on both upper and lower levels permit maximum utilization of all floor space.

**A Few Reasons
Why the
Architect
Specified
Wayne**

WAYNE IRON WORKS

 REPRESENTATIVES IN 42 CITIES
148 N. PEMBROKE AVENUE
WAYNE, PENNA.

First he saw that Wayne Rolling Gymstands meant extra room for intramural sports . . . and maximum seating when game time was due.

Then he found that Wayne Rolling Gymstands could provide upper as well as lower level seating facilities . . . and, when used on balconies, could be modified by increased rise per row if necessary.

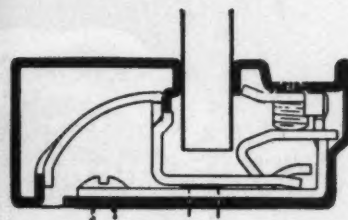
And he heartily approved of Wayne's completely closed risers . . . diagonal bracing against side sway . . . and independent unit stability.

For these, and for other reasons why you too should specify Wayne: write for the complete Gymstand Catalog.

Striking the MODERN NOTE with BRASCO STORE FRONT SETTINGS



BELL SAVINGS BUILDING, CHICAGO
Engineers - Architects
JOHNSON & JOHNSON
General Contractors
CAMPBELL-LOWRIE-LAUTERMILCH CO.



SASH No. 208 actual size,
showing simplified setting
mechanism and deeper,
safer Brasco grip on glass.

IN THE EARLY 1900s it was known as the Rector Building, home of the original Rector's Restaurant of fond memories. Remodeling the old structure called for an unusual degree of architectural and engineering skill. Completely transformed, the building is now a modern Chicago landmark of outstanding attraction.

Nine busy shops, stores and restaurants adorn the street frontage. Each is handsomely framed in Brasco Store Front Settings of stainless steel. Note the wide second floor windows glazed with Thermopane, also in Brasco stainless steel settings.

Fabricated in anodized aluminum as well, Brasco Construction permits distinguished architectural treatment at moderate cost. Beautiful, sturdy stock assemblies are available in wide variety. Sections are fully interchangeable to suit varying needs. Wherever you are located there is an experienced Brasco distributor to serve you promptly and efficiently. For his address write Dept. R 106.

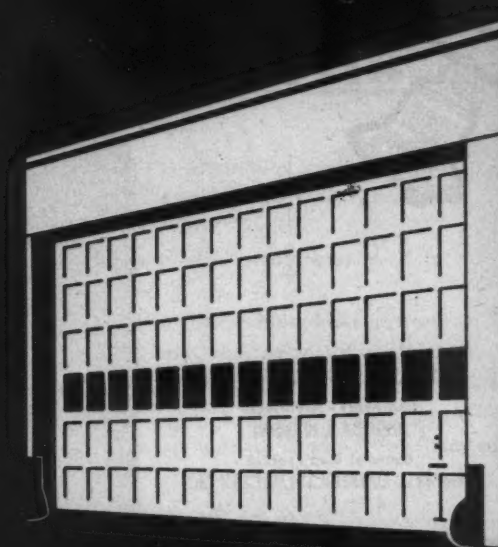


★ ★ A COMPLETE LINE FOR EVERY DESIGN ★ ★



BRASCO MANUFACTURING CO.
HARVEY • (Chicago Suburb) • ILLINOIS
Specialists in Metal Store Front Construction for more than 40 Years

INDUSTRY'S
HIGHEST
HONOR
AWARDED
TO
CRAWFORD
DOOR
COMPANY



"For Leadership in Research, Engineering, Design and Manufacture in the Garage Door Field" our company and our products have won the Merit Award of the American Society of Industrial Engineers.

This is the first time that the Society has granted its award to any door.

More than anything we could say, the judgment of this independent, impartial and competent body testifies to the excellence of Crawford Marvel-Lift Doors.

CRAWFORD DOOR COMPANY

71-401 St. Jean • Detroit 14, Michigan

Crawford Marvel-Lift Doors and Operators
Industrial • Commercial • Residential

FABRICATING PLANTS in Portland, Tacoma, Los Angeles, San Francisco, Dallas, Kansas City, Chattanooga, Milwaukee, Hudson, Cadillac and Ottawa, Canada.

DISTRIBUTING WAREHOUSES in 79 major cities.
SALES AND SERVICE companies everywhere.

SCHOOLS AND SCHOOL PRACTICE



TRANSLATING abstract ideas into tangible buildings is everyday work for architects, particularly architects of schools. On one hand is the problem of providing space which will function well, fostering mental, spiritual and physical growth in accordance with modern educational philosophy. On the other is the demand for economy of means, doubly emphatic today when, in addition to sky-high costs, we face the need for conserving strategic materials. Neither was a difficult problem in the day of the little red schoolhouse, nor did either receive much attention when the pompous, gloomy schools of the early 1900's were built. In 1951 both are prime considerations to laymen, educators and architects. That is why today's schools look different.

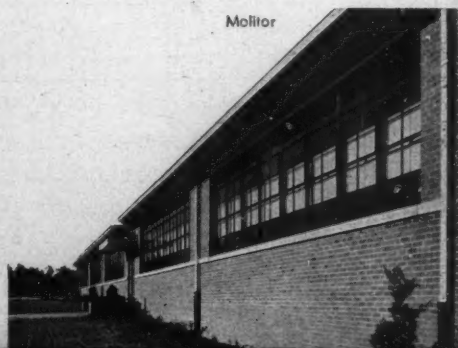
It is not often easy to convince a hard-headed taxpayer that anything so unfamiliar as a modern school building merits his approval. Beset by educational requirements beyond his experience, wanting the best for his children, having a dim knowledge of state and local regulations and an acute awareness of his short pocketbook, the voter cannot be blamed for wanting a full explanation. Sometimes the architect, remaining in the background, can feed the voter information through a building committee, school board or P.T.A. Occasionally, to his dismay, the architect finds himself up directly for questioning. This aspect of his professional practice is important. It is more than maintaining good public relations; it is part of the task of raising the general level of culture which, as a professional man, is his duty; in the long run it will make his work easier; and the process of justifying his work to his clients helps insure its continuing vitality.

Perhaps in the concern with techniques and costs something possessed by the little red schoolhouse has been lost. Those were obviously schools, for children. Inside a good modern schoolroom this same atmosphere is of course evident. Modern heating, lighting, teaching equipment, use of color and planning make it so. The exteriors of so many good schools betray so little of this internal respect for the child and his world! Bricks, glass and doors all in monotonous procession so frequently fail to achieve the individuality which educators stress today. No attempt to remedy this fundamental lack by superficial means — for instance, by painting the doors different colors — can give the philosophic concept more than a spurious tangibility.

— Frank G. Lopez



Above Photos Underwood & Underwood News Photos



ECONOMICS + PHILOSOPHY + AVAILABLE MATERIALS AND EQUIPMENT +

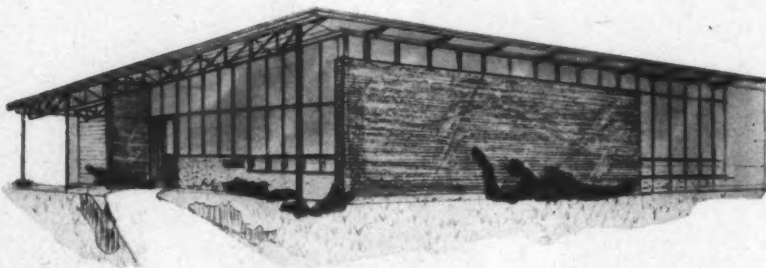
DES

IN SCHOOL design we have been through an era of concentrated attention to technical detail which, late though it may have been in arriving, has nevertheless revolutionized schools physically in the last two decades. Starting when a few centers of educational philosophy and even fewer architects began to wonder how to translate pedagogic theory into buildings, realized in a handful of schools prior to World War II, quietly undergoing refinement during the semi-idle construction period of the depression and war economy, this careful analysis and development have made most of the schools built since 1945 unrecognizable to an earlier generation.

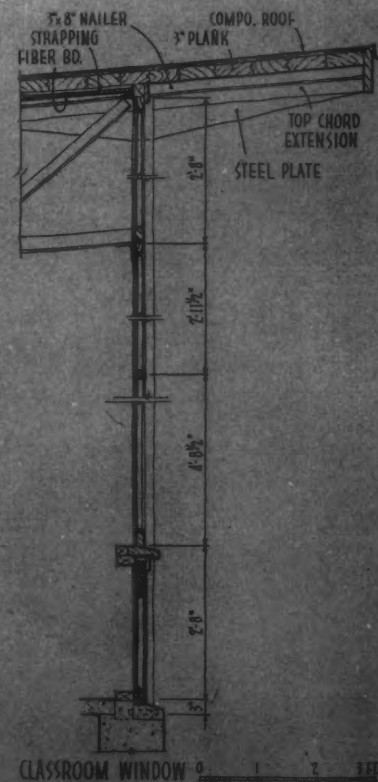
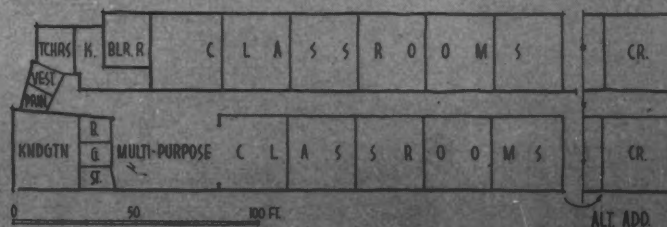
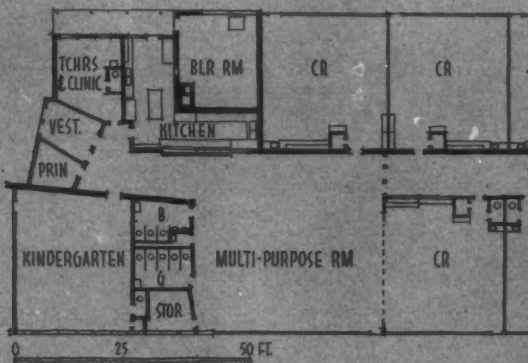
Although not every recent school is in this sense

modern — quite a percentage of the total is apologized for as being necessarily neo-Georgian or Romanesque — even our old-line firms have found themselves forced, many a time, into a rational attitude of design which they had not previously contemplated. The reason was simple, difficult though the problems encountered might be. First came demands from educators for improvement in utility and amenities, which meant better space organization, teaching equipment, lighting, heating and ventilation, all to serve a changed conception of teaching methods. Little by little this transformed classrooms.

Next came rising costs — of construction, of maintenance, of administration — which meant increased tax burdens. At first schools were merely consolidated,



Elementary School proposed for Brewer, Maine; Alonzo J. Harriman, Inc., Architects-Engineers: exposed light steel framing with the minimum of enclosure to keep out weather and hold down heat loss; wood sash secured directly to steel.



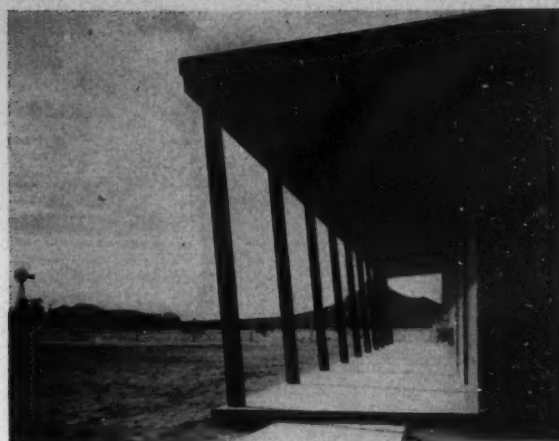
but this
ping de
cation
up dem
the nat
types o
more. M
may be
function
anomal
rooms
the bes
school
outside

Color is
tural exp
limited s
trical p
shortage

+ DESIGN = MODERN SCHOOLS

but this provided only partial relief. Next came a stripping down to essentials: removal of ornament, simplification of detail, rationalization of structure. The pent-up demand for buildings, not by any means confined to the nation's school systems, put a premium on many types of materials, which meant that prices rose ever more. Now we have schools which, various though they may be in form, material or expression, display their function visibly and have one common, somewhat anomalous, characteristic. Average-good modern classrooms do wonders in aiding the educational program; the best of them are delightful interiors; the modern school plant, a gem of ingenuity, is well organized; the outside of the building is apt to be pretty monotonous.

Color is liberally used to offset sparseness. Structural expense is reduced to minimum; climate and limited sunlight mean costly mechanical and electrical plants. Though not devised for defense shortages, use of some critical materials is reduced



Stuart Weiner Photo

Sunnyside School, Maricopa County, Arizona; Ralph Haver, Architect; M. M. Lowey, Mechanical Engineer. Problem is similar to the Brewer School, but climate changes the picture. See following pages

Economy is of course an excellent scapegoat. That low cost, or consumer resistance or availability of materials should dictate impoverished design, however, is acknowledgment of architectural incapacity. Architects should be the last to employ such an argument, particularly in the case of a school. The buildings which play so large a part in forming our children ought to be entirely delightful in ways children can comprehend, not merely inside, after the child has passed through a

WEST ELEVATION

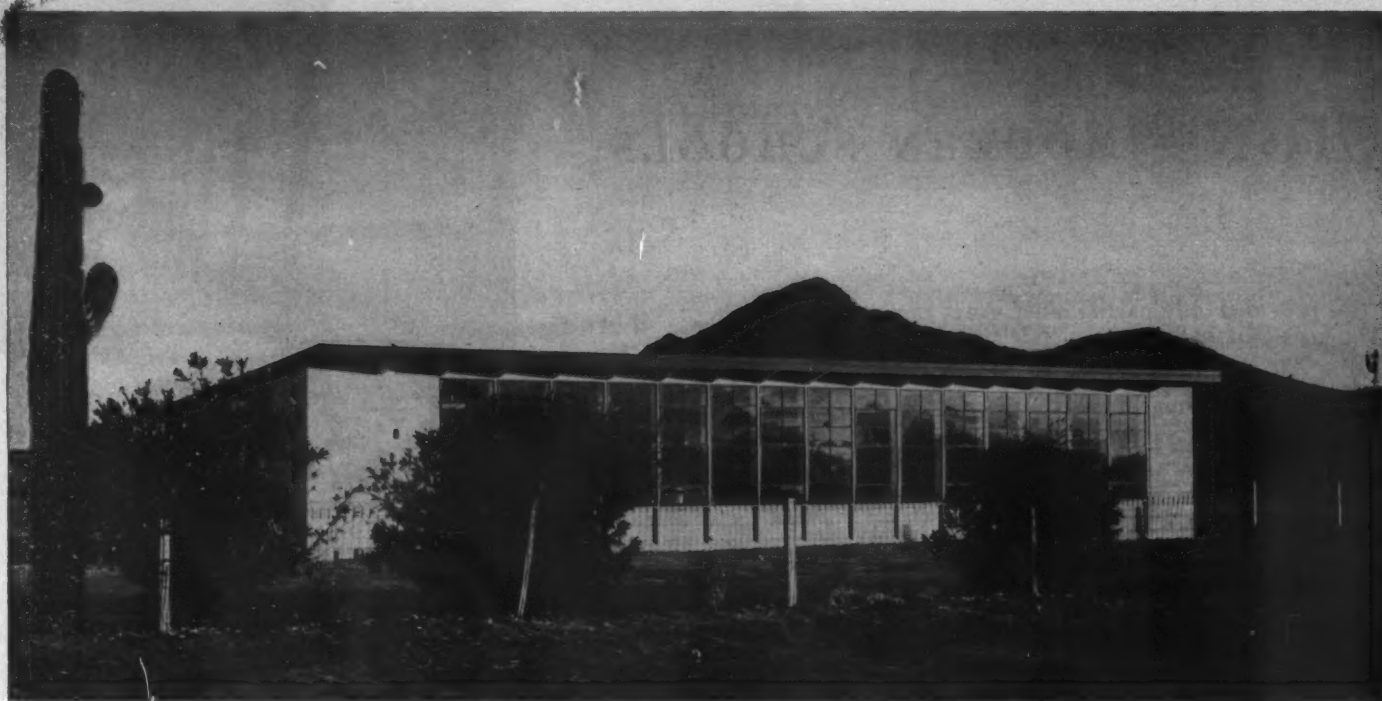
SOUTH ELEVATION

CLASSROOM ELEVATION

CLASSROOM ELEVATION

$\frac{1}{2} \times \frac{3}{8}$ " RABBIT FOR DOUBLE GLAZING
CAULK $\frac{3}{16}$ " $3-11\frac{1}{2}$ " $\frac{1}{2}$ " CAULK
TYPICAL COLUMN & MULLION





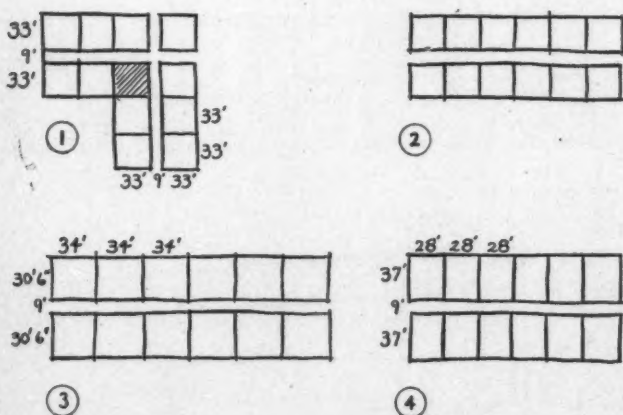
Stuart Weiner Photos

forbidding facade. First impressions count. Now, in addition to high costs and what may be called normal material scarcities, the difficulties of a defense economy are upon us. The modern structure, so ingeniously devised and pared down, is going to need restudy; though schools are declared essential structures and priorities for materials may be obtainable, getting a

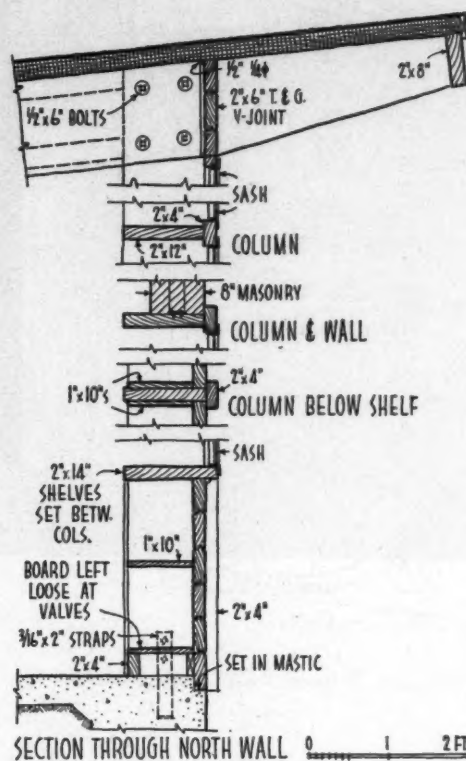
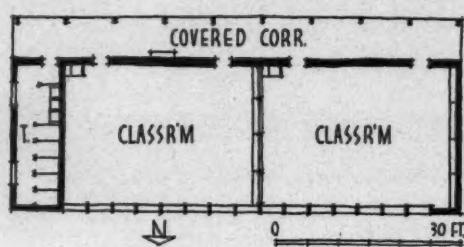
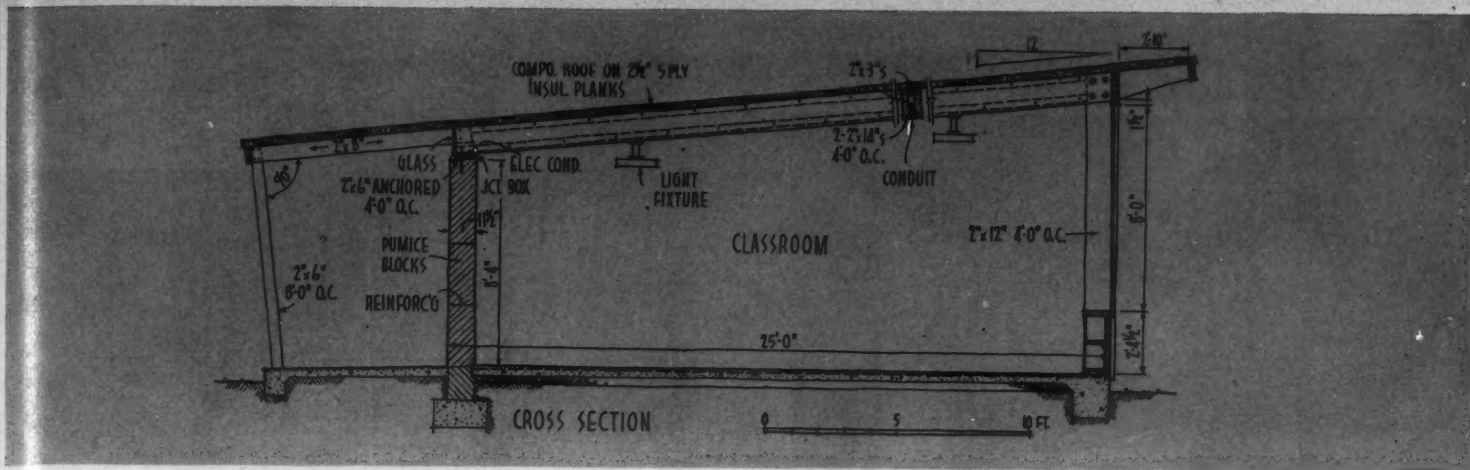
priority for an H-section does not mean that the H-section will be delivered when wanted. Loss of time also means increased cost.

In the restudy (which has started in many architects' offices) we cannot afford to lose the many improvements we have made. To list these briefly: in construction, the cavity wall, the structural frame with spans wide enough to encompass the desired space, interior walls of such durable materials as cinder block (not forgetting expansion joints to avoid shrinkage cracks); in plan, classrooms of efficient shape and size for their purpose, perhaps end-on, perhaps square (though this may lead to deceptively low cubic costs and actually high cost per teaching unit), organized for functioning well together, well equipped and cheerfully promoting the well-being of their occupants. In regard to lighting, orientation to make the most of natural daylight, means of attaining even daylight distribution such as bilateral windows in some form; artificial light in sufficient quantity and quality, without glare and without the distraction of "hot spots". In heating, means of even — and economical — distribution of warmth, and, especially for smaller children, attention to the problem of distributing this warmth close to floor level (and many architects call a radiant-heated slab on grade too expensive for a school). There are many more items, ranging from ventilation to provision, equipment and integration of non-teaching rooms.

All of these seriously affect and are in turn affected by the paramount considerations of cost, educational requirements and that something which only the architect can provide, which is variously called esthetics, scale, humanity and many other names. Without it no school can be more than mediocre architecture.

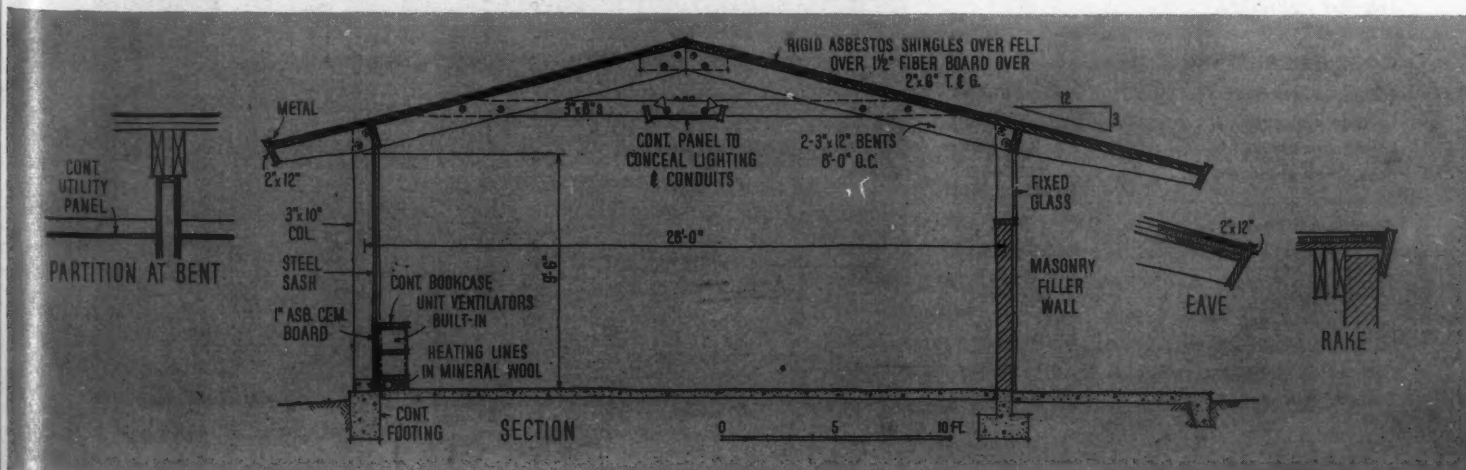


John W. Maloney and John H. Whitney, Yakima, Wash., architects, argue the merits of classroom arrangement: assuming a corridor 9 ft wide and rooms with individual exterior doors, if building 1 will house 11 classrooms, building 2 will house 12 in 675 fewer sq ft. Building 3 requires 548 ft of perimeter wall, 1,836 sq ft of unacademic corridor. Building 4, same number of comparable classrooms, requires 46 lin. ft less perimeter wall, 324 fewer sq ft of corridor, shorter mechanical and electrical runs than 3

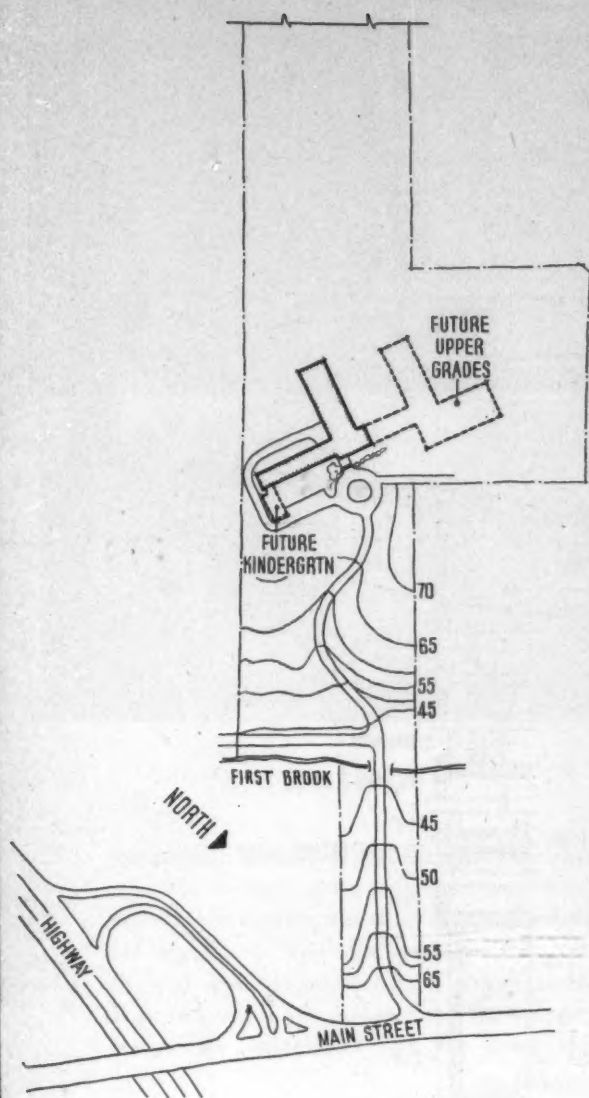


Photos and drawings above show the small Sunnyside School in Arizona (Ralph Haver, architect), economical yet pleasant. Climate makes mechanical and electrical plants relatively inexpensive; structure is hardly more complex than the Brewer

School (see page 118). Even in so minimum a building, however, the squeeze of cost and priorities is being felt; for the future the architect is experimenting with the even simpler structure shown below



Joseph Molitor Photos



ELEMENTARY SCHOOL KING

It took many months, starting with a complete survey in which the architects participated, to persuade this conservative town to abandon its sub-standard existing schools. But when final costs were figured the town realized it had better facilities at lower cost than any nearby community, and its community pride swelled justifiably

COST DATA

Building construction.....	\$288,110.00
Sewage disposal.....	3,700.00
Land improvement.....	25,000.00
Fees, Clerk of the Works.....	25,000.00
Equipment.....	35,000.00
Committee expenses.....	3,875.12
TOTAL.....	\$380,685.12
Cu ft contents.....	382,580
Cu ft cost, building only.....	\$ 0.75
No. pupils.....	360
Cost per pupil, building only.....	\$ 800.00
Cost per classroom (30 pupils).....	\$ 24,000.00



K
pend
bor,
mean
ing c
tradi
appr
The
build
ously
peop
surve
Bogn
Cott
and
Scho
porto



SCHOOL KINGSTON, MASSACHUSETTS

*Walter F. Bogner and
Carleton R. Richmond, Jr., Architects*

*Cleverdon, Varney & Pike
Mechanical, Structural Engineers*

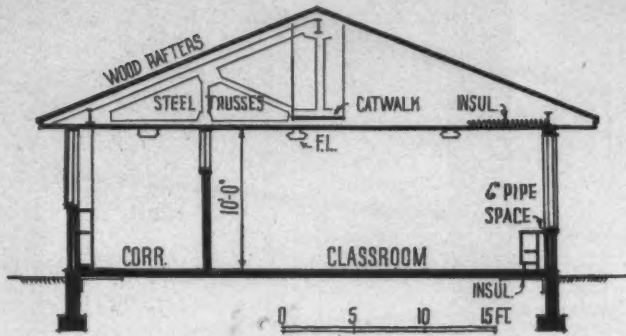
KINGSTON is the next town north of Plymouth, Mass., where Plymouth Rock is situated. Entirely independent, in New England fashion, of its famous neighbor, it has approximately 3000 inhabitants of moderate means, all of whom are interested in any project involving expenditure of funds, in maintaining the region's traditionally high standards of learning, and in careful appraisal of innovations, educational or architectural. The town badly needed schools. All its several small buildings, including the high school, were old and seriously sub-standard. For several years some townspeople had worked to get a new building; in 1945 a survey committee was authorized, to which Walter F. Bogner, Professor of Architecture at Harvard; Dana M. Cotton, of the Harvard Graduate School of Education; and Ralph D. McLeary, Concord Superintendent of Schools, were appointed. In 1946 this committee reported strongly in favor of a single new elementary

building, an eventual new high school (preferably to be built jointly with surrounding communities), offered advice on site selection, probable costs, financing, size and nature of building, types of school planning, and made enrollment forecasts. The survey report was prepared to answer any question which might be asked, because under the New England Town Meeting government, all citizens have the right to ask questions before voting on a problem. After two years of deliberating, and after the Chairman of the School Building Committee threatened to resign when he saw the size of cost estimates given in the survey report, a Town Meeting gave the Building Committee authority to select an architect and apply for federal aid. (At that time Massachusetts provided no state aid, although in the course of this building's design a state-aid program was enacted and Kingston eventually received state funds.)

In November 1947, Mr. Bogner, of the firm of Bogner

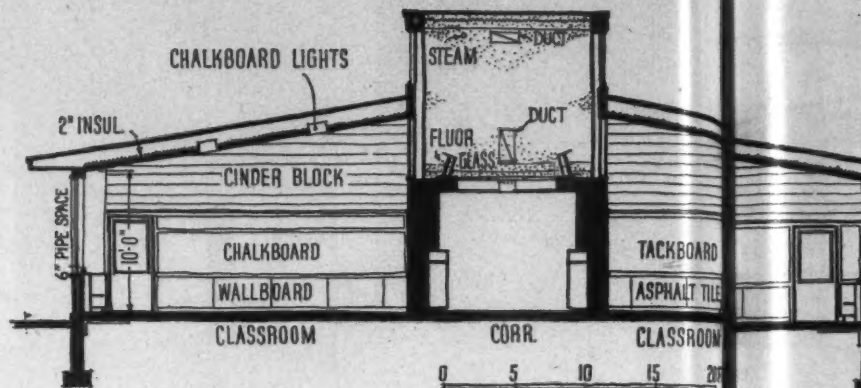
KINGSTON ELEMENTARY SCHOOL

EAST WING

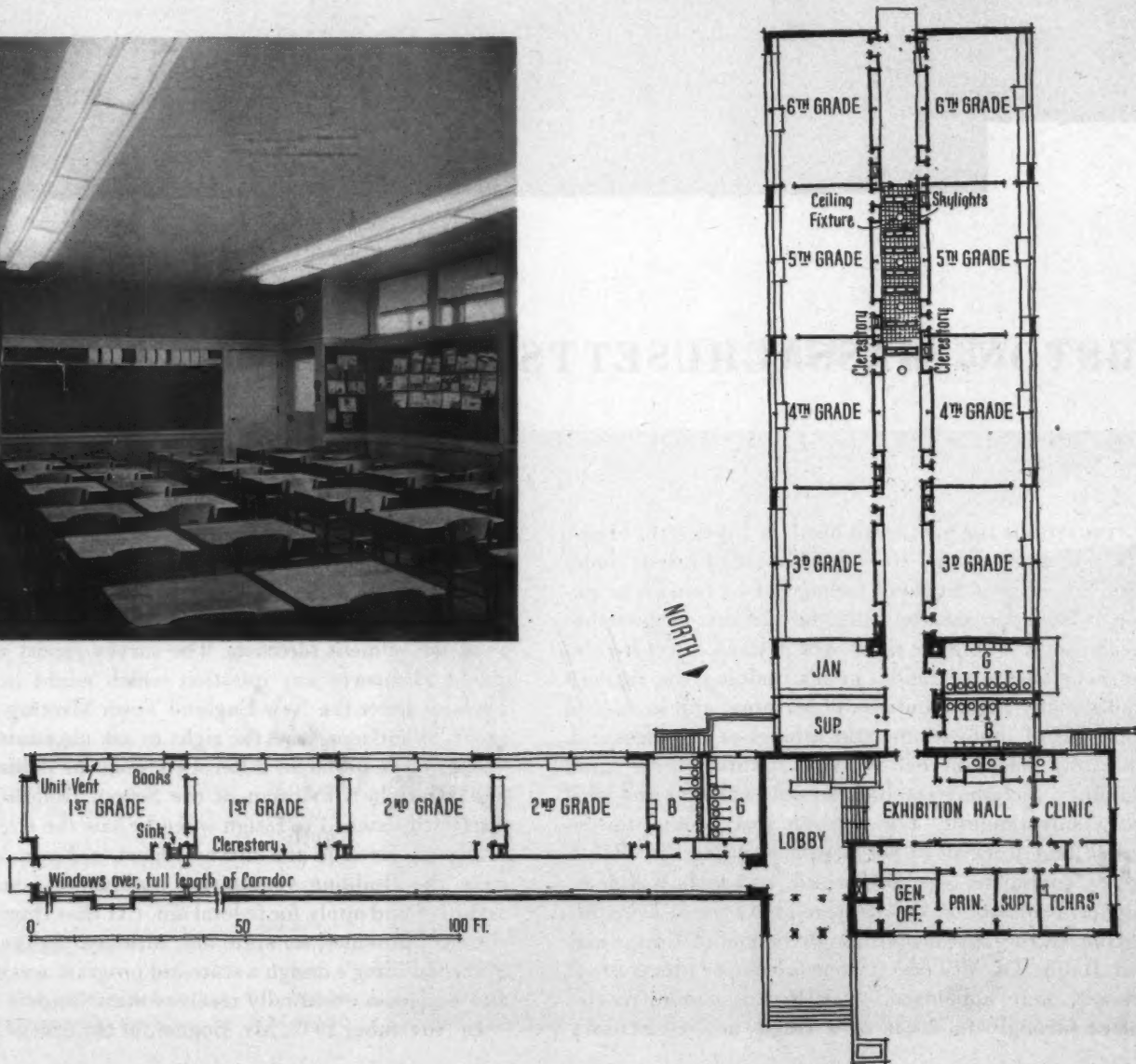


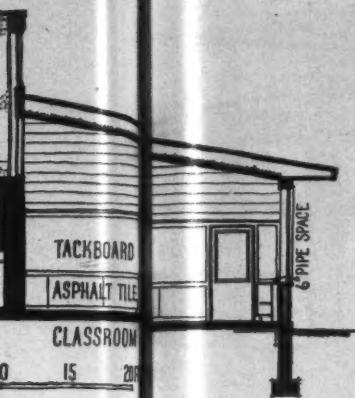
Kingston's east wing is fairly conventional in section, with flat-ceilinged classrooms having the usual almost continuous windows on the south wall, plus an internal "clerestory" which borrows light from the northlighted corridor. These rooms require exposed ceiling lighting fixtures to supplement daylighting. The south wing's monitor roof affords clerestory lighting to both rows of classrooms and

SOUTH WING



diffused daylighting for the corridor as well. In addition, industrial fluorescent fixtures concealed in the monitor indirectly light classrooms; used only on the gloomiest days, these are almost imperceptible as light sources when lit; they eliminate "hot spots" of light caused by visible fixtures. This the architects deem exceedingly important. Recessed chalkboard lights are the only classroom fixtures



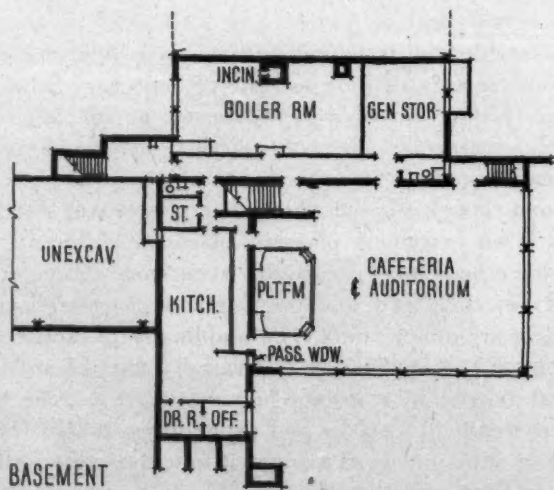


, industrial
ight class-
perceptible
ight caused
important.



Joseph Mallor Photos

Construction is steel frame with brick cavity walls, steel sash, acoustic tile ceilings, asphalt tile floors on insulated concrete slab. Interiors are asbestos-cement board wainscots and hardwood trim in classrooms, glazed tile in corridors, toilets and kitchen, painted plaster above door heads, plastered cinder block partitions. Chalkboards are green composition slate, tackboards cork, cafeteria tables recessed wall type concealed in linoleum wainscot



BASEMENT



Top photo shows classroom in south wing with sloping ceiling virtually free of lighting fixtures, clerestory glazed with translucent glass. Note even, high-level illumination. Bottom: interior of monitor showing piping, ductwork, framing, clerestories, corridor ceiling lights, lighting fixtures



KINGSTON ELEMENTARY SCHOOL



& Richmond, was selected as architect. Throughout the entire job of getting the building from preliminary sketches to completion of construction, the architects worked most intimately with the Building Committee. Taking the attitude expressed by its Chairman, that if he failed fully to understand every last detail of design, construction, or equipment he would fail in his appointed job, the Committee exercised very close control over every aspect of the work. This is truly a building which the Town of Kingston built. Popular opinion is responsible for the pitched roofs and reminiscently columned entrance. The Committee members made themselves a deal of unnecessary work, though most of the architects' recommendations were followed in technical matters, making Kingston Elementary School an outstanding example of advanced design in the technical sense. Also, by controlling design so closely they undoubtedly spent more money than was necessary; and though the school has a certain charm which makes it an extremely pleasant place for children, it could have been more forthright, even more characteristically in the trend of New England progressivism. Yet these are minor faults. The building is an excellent example of the application of the full range of architectural talents in a certain environment; it reflects that environment's status and capabilities; it cost less than was anticipated; as a school it functions very well.

Joseph Molitor Photos



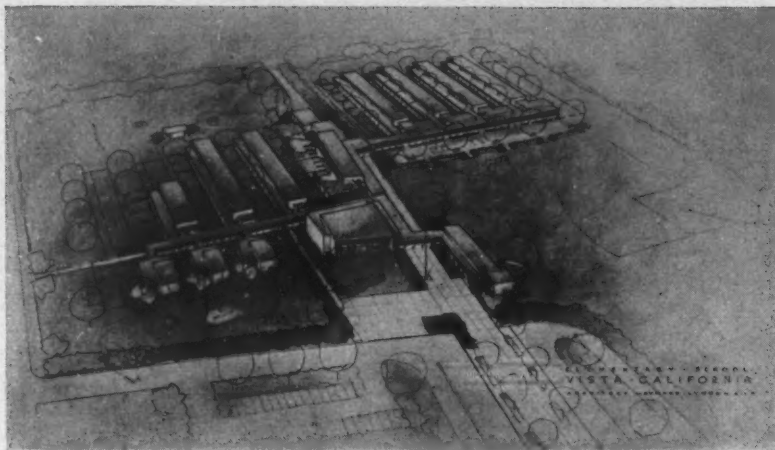
Facing page, left top: corridor, south wing, with natural light from clerestories over; left bottom, corridor, east wing, lighted by high windows and with borrowed lights to classrooms. Above, typical classroom equipment: built-in

cabinets, sink and supply closet, bookcase, cabinets and unit ventilators under windows, with piping behind them accessible through cabinet backs. Below, large cafeteria is also assembly room, play space in poor weather





R. U. Moen Photo



20-acre site on edge of town, remote from traffic, is generally flat. Top, air view; bottom, eventual development



ELEMENTARY SCHOOL

Maynard Lyndon, Architect

E. L. E. Co., Mechanical Engineers

Howard Annin, Structural Engineer



Merge Studios Photo

VIS

V

San
tem
tim
gro
peo
for
cur
sch
fied
Boa
som
Ele
still
90
tary
"inc
T
the
mac
roo
exp
tha
mar
dow

JUL



VISTA UNIFIED SCHOOL DISTRICT, CALIFORNIA

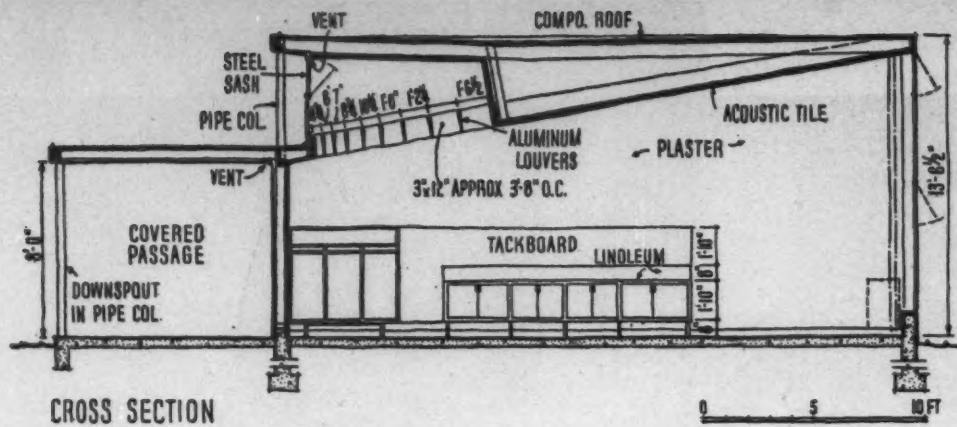
VISTA, an unincorporated California town of about 2000, lies 8 miles inland from the Pacific in northern San Diego County. Its climate, free of coastal fog, is temperate, varying from a rare 30° at night to a daytime high of 95. It is surrounded by small avocado groves, many owned by retired gentleman farmers or people with other active interests, an unusually uniform, high-density agricultural development which curiously limits the town physically. Its new elementary school serves the Vista Unified School District ("Unified" means elementary and high schools under one Board of Trustees — a rare situation in California) of some 36 square miles, with a total population of 11,000. Elementary enrollment, doubled in the last 5 years and still rapidly increasing, is now just under 1300 children, 90 per cent of whom travel to school by bus. Elementary grades formerly occupied what one teacher calls "inconvenient temporary bungalows."

These uncommon local characteristics, coupled with the more universal desirability of keeping costs low, made mandatory a very large school plant: 20 classrooms and 2 kindergartens, with provision for further expansion. That it cost approximately \$400,000 (less than \$10 per sq ft) is in part due to cooperation of many organizations and individuals, from State level down to the local contractor who was Chief Inspector.

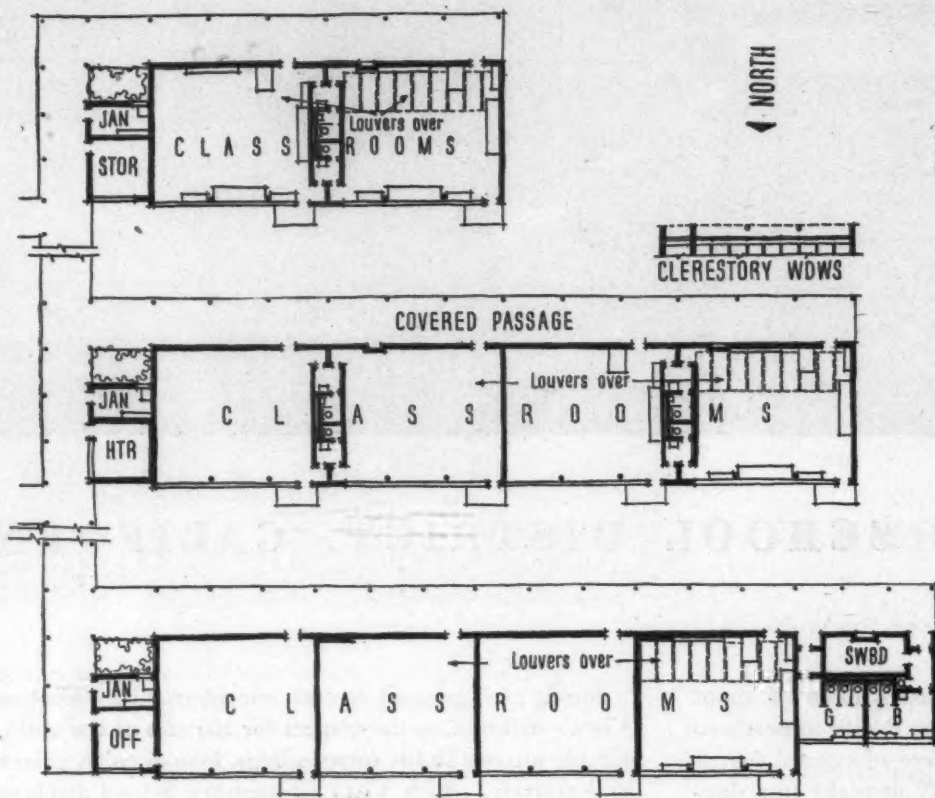
Surely as important as cost, considering its effects on Vista's children, is the respect for the size of the child, for his interest in his surroundings, love of color, gaiety and activity, which Vista Elementary School displays — particularly the kindergarten buildings, each an entity complete yet small enough for a youngster to comprehend. By such devices as segregating classroom units according to age groups and by liberal use of strong color, any temptation to make the large school a child-dwarfing monument was avoided, and the stringencies imposed by California's school "Austerity Pro-

Dedication ceremonies in fall of 1950; architect at microphone

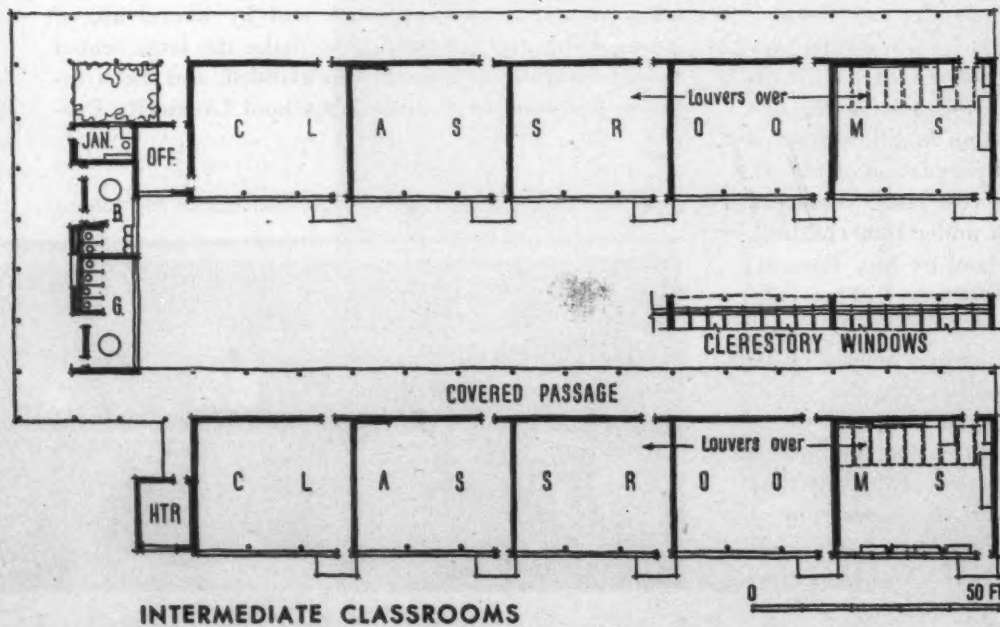




CROSS SECTION



PRIMARY CLASSROOMS



INTERMEDIATE CLASSROOMS

Board of Trustees

Alex McDougall, Pres.
Jack L. Powell, Clerk
John A. Barrett
Paul B. Elaner
Martha G. Thompson

District Superintendent
William P. Schlechte

Chief Inspector
Rayburn O. Hanslik

General Contractor
W. D. Haxton

Office of School Planning
John Brannigan,
Field Representative

Parent-Teachers Ass'n
Mrs. R. O. Hanslik, Pres.

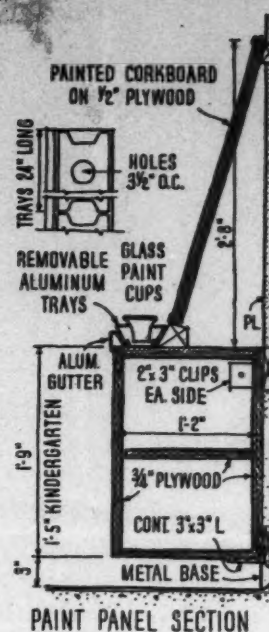


Merge Studios Photos

VISTA ELEMENTARY SCHOOL

gram" were softened. The school is big but pleasant, without applied ornament yet pleasingly proportioned and rich in color; obviously a school, definitely not a residence, it is human in character.

Directly concerned in developing the project were a number of agencies. The State of California granted funds to help complete this first portion of the total scheme. The Office of School Planning of the State Department of Education reviewed plans to determine construction and finish justifiable under the state-aided Austerity Program, gave advice during planning and construction, and provided a "pool" of ideas drawn from its experience with all California school districts. The Vista Board of Trustees (five elected members: two businessmen, an attorney, a contractor, and an unusually alert woman) selected Maynard Lyndon as architect on the basis of his training and experience, after examining several of his schools in regard to: site

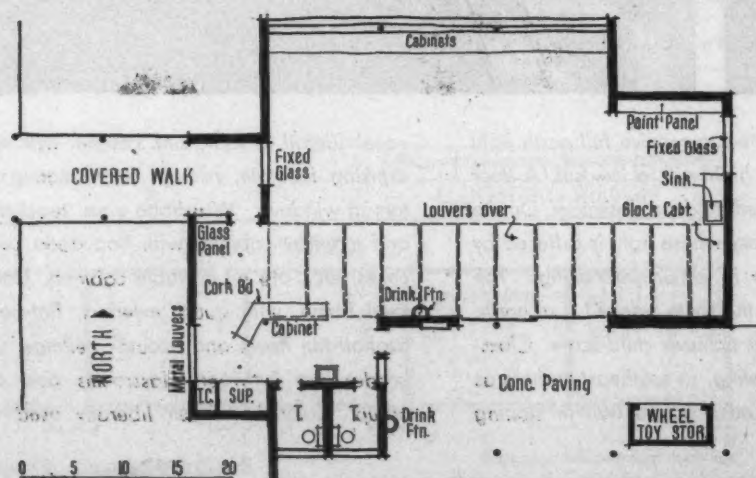


Each elementary classroom is oriented to receive full north light from wall-to-wall windows, ceiling high with a low sill. A door in this window-wall leads to a paved outdoor classroom. On the south side of each wing is a clerestory whose light is diffused by carefully angled aluminum louvers in classroom ceilings. The sloped ceiling is about 8 ft high at the south side, 13 ft at north; this and the 8-ft high corridor help achieve child-scale. Classrooms have cork panels, floor to ceiling, in southeast corners as backgrounds for project displays; each has a built-in sloping

easel (detail at top), sink cabinet with white linoleum top and drinking fountain, radiant floor heating plus auxiliary convectors at windows. Wardrobe units, teacher's storage, clay board and tote-tray cabinets with flap doors over each section, bookcases, etc., are all movable cabinets. Construction is wood and steel frame, with stucco exteriors, flat-painted plaster interiors, asphalt tile floors and acoustic ceilings. Group toilets for upper grades are between classrooms and playgrounds for each group. Color has been liberally used throughout the school



In Vista's kindergartens, with their child-sized windows in the east walls (photo, facing page) and outdoor wheel-toy garage with lift-up door, respect for a child's size and interests are evident. Toilets, lavatory, drinking fountain, wardrobe cabinet, even the wide sliding doors leading to paved, canopied outdoor space, all maintain this scale. Like the classrooms, kindergartens have white reflective roofs, oil-fired hot water heat (radiant floors and convectors) and light-colored asphalt tile floors, not marbled



VISTA ELEMENTARY SCHOOL

plan; appearance; functioning; heating and lighting.

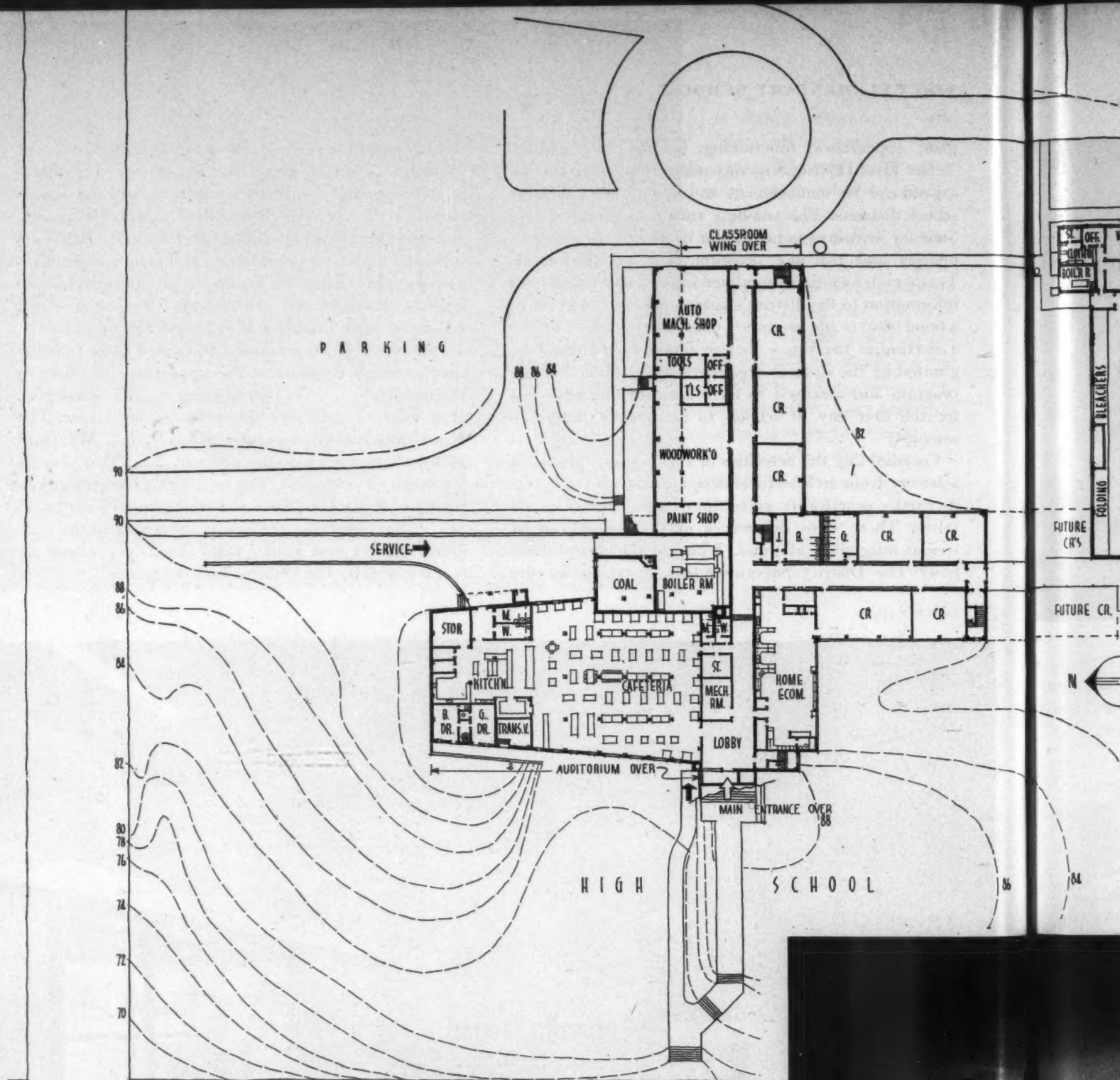
The Vista District Superintendent brought to the job a good eye for management and maintenance of large school districts. The teaching staff also reviewed preliminary drawings to help tailor details to the district's policies and teaching program. The active Parent-Teachers Association stimulated interest and distributed information to the district's voters, who had to approve a bond issue to the maximum debt limit — which meant a maximum tax rate — before financial aid could be granted by the state; it organized the school dedication program and arranged to have a mother on each bus for the first day of school, to help make things go smoothly.

Coordinating the activities of such various groups is a far cry from architectural design in the abstract; but its earthy practicality gives the resulting buildings vitality. There were differences of opinion and even serious misgivings at times. What do the clients think now? The District Superintendent, speaking for the

Trustees and the teachers, expresses appreciation of the plant's easy maintenance, the well-equipped, radiant-heated, colorful rooms with north light, and the organization of the site. The State Office of School Planning, through John Brannigan, Field Representative, has expressed its pleasure at receiving full cooperation in reviewing every phase of design, from site selection to finishes. Teachers and parents say: "While the school was being built I thought that I wasn't going to like it. It looked sort of like a factory. But now I know that the simple design emphasizes the importance of children themselves." . . . "A sink in every room is wonderful. (I wonder, though, why the sinks are not deeper. The water splashes all over the place)" . . . "My child used to have one cold after another. . . . This year he has been perfectly well. The heating and ventilating in the new school must have something to do with this." . . . "I love the way the rooms are scaled to the children. When a first grader talks about 'my school' he really means it. The children love the colors."

Merge Studios Photos





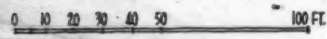
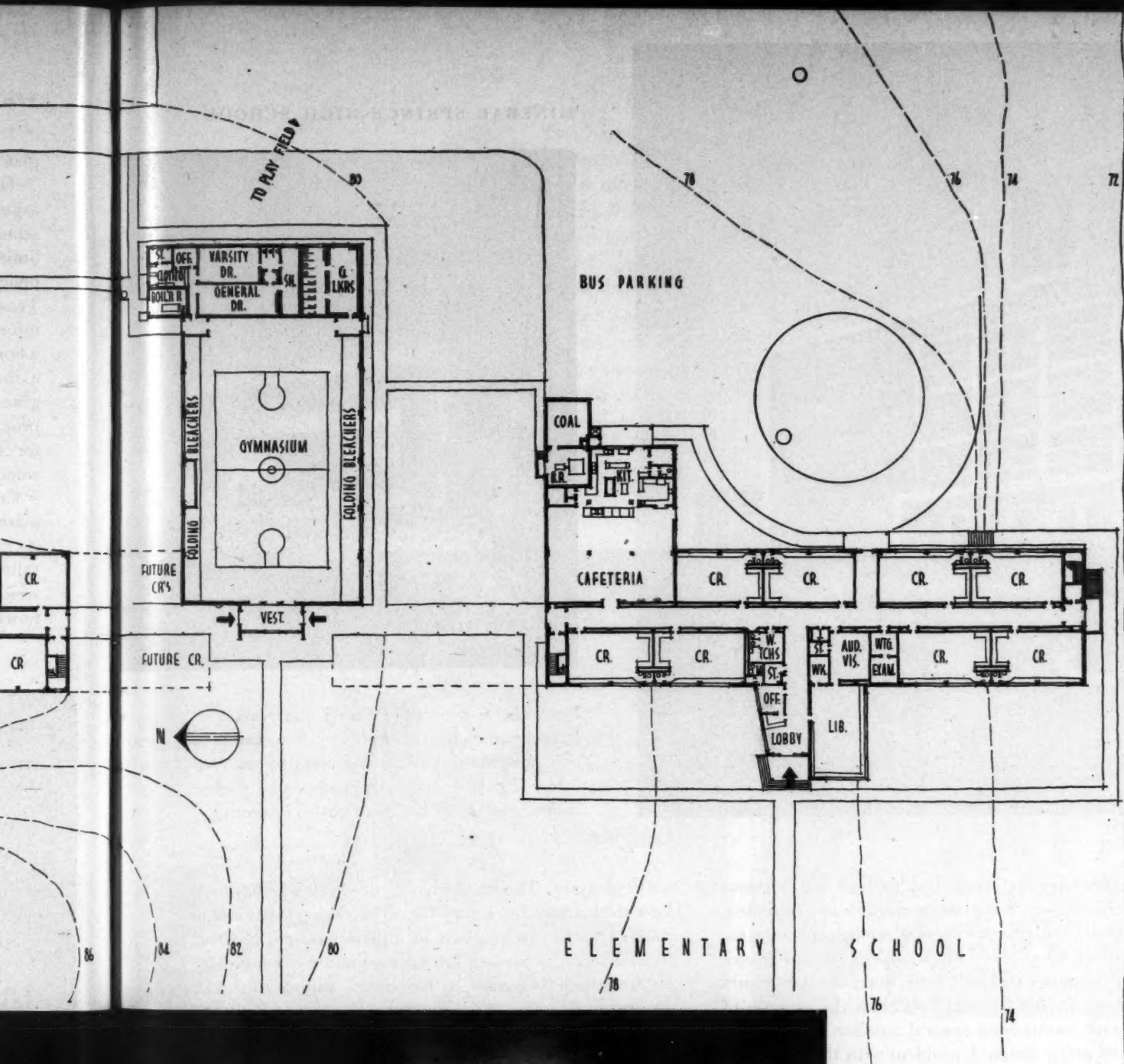
MINERAL SPRINGS

HIGH AND ELEMENTARY SCHOOLS

FORSYTH COUNTY, NORTH CAROLINA

Macklin & Stinson

Architects and Engineers



Plan and photo show, left to right: High School; Gymnasium; Elementary School. As in most sites in this region, considerable cut and fill were required. Separating the buildings not only reduced site work, it also helped segregate age groups

ORIGINALLY the 33-acre site of the Mineral Springs schools, purchased by Forsyth County before consulting an architect, was intended solely for a high school. Later, when another plot proposed for the elementary school was found unsuitable, it was decided to build both on one site. While this reduced the outdoor areas available for high school use, it did provide better facilities for the schools as a group. In part, the proce-

cedure was due to the need for economy; Forsyth County schools are administered — and supported — separately from those of Winston-Salem, a manufacturing center which is the county's largest city. The substantial industrial growth of this portion of North Carolina in recent decades has contributed to the increase in population of nearby rural and suburban areas without comparably increasing sources of tax revenue. Under



MINERAL SPRINGS HIGH SCHOOL



Photo above: auditorium. Facing page, top row: looking from study room into library, library office in right foreground; typical classroom. Bottom row: library for both community and school (higher shelves used as stacks); home making laboratory

such circumstances it is natural to find the Mineral Springs schools, which replace a number of outmoded, uneconomical structures, in one compact, easy-to-operate group. That the cost of a large fleet of school busses, to transport children from quite distant points to one school, is substantially less than the expense of building and maintaining several smaller schools, has been proved many times. A problem with the big buildings which result is overcoming their tendency to become somewhat forbidding, particularly to small children. Seldom does the emphasis on cost permit more than repetitive materials and fenestration.

This North Carolina region is almost uniformly a series of low, rolling hills; a site of from 15 to 30 acres may have as much as 50 to 75 ft difference in elevation from high to low point. At Mineral Springs this difference is 40 ft; considerable cut and fill was required to produce an area level enough for economical design and construction. Due in part to these conditions, and to conserve as much land as possible for playgrounds and other buildings, the High School was made three stories high. Similarly, the Elementary School has two stories. Separating the entire plant into three buildings, with the Gymnasium an independent structure between the others, obviated the more extensive grading which a single huge building would have required, and helped to keep the scale closer to that of children.

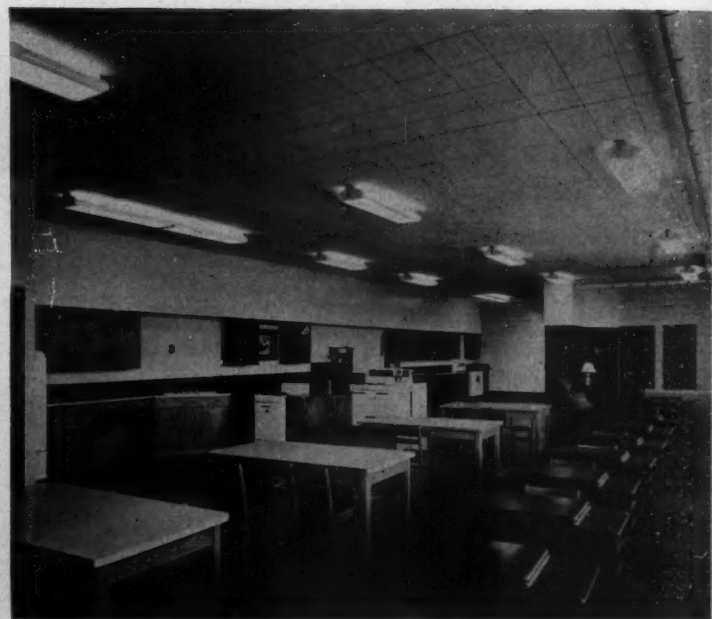
Inside, the classrooms are efficiently equipped and

quite pleasant. The cinder block, used both as back-up for exterior face brick and for all interior partitions, is painted with cement paint in different colors, none of them intense, according to exposure and room use. The High School contains a cafeteria, auditorium and library used by the community as well as the school; for these there is a separate entrance to the main floor, accessible from a street and from the parking area. The principal entrance leads also to the main floor; there is another separate entrance serving the stage, kitchen and boiler room. Shops, on the north side of the ground floor, extend beyond the wing of offices and classrooms above to reduce noise transmission. Band and practice rooms, on the north wing beside the auditorium, are soundproof. In addition to standard classrooms there are also commercial and homemaking suites; a study room next to the library; science, music, conference, audio-visual, and lecture rooms.

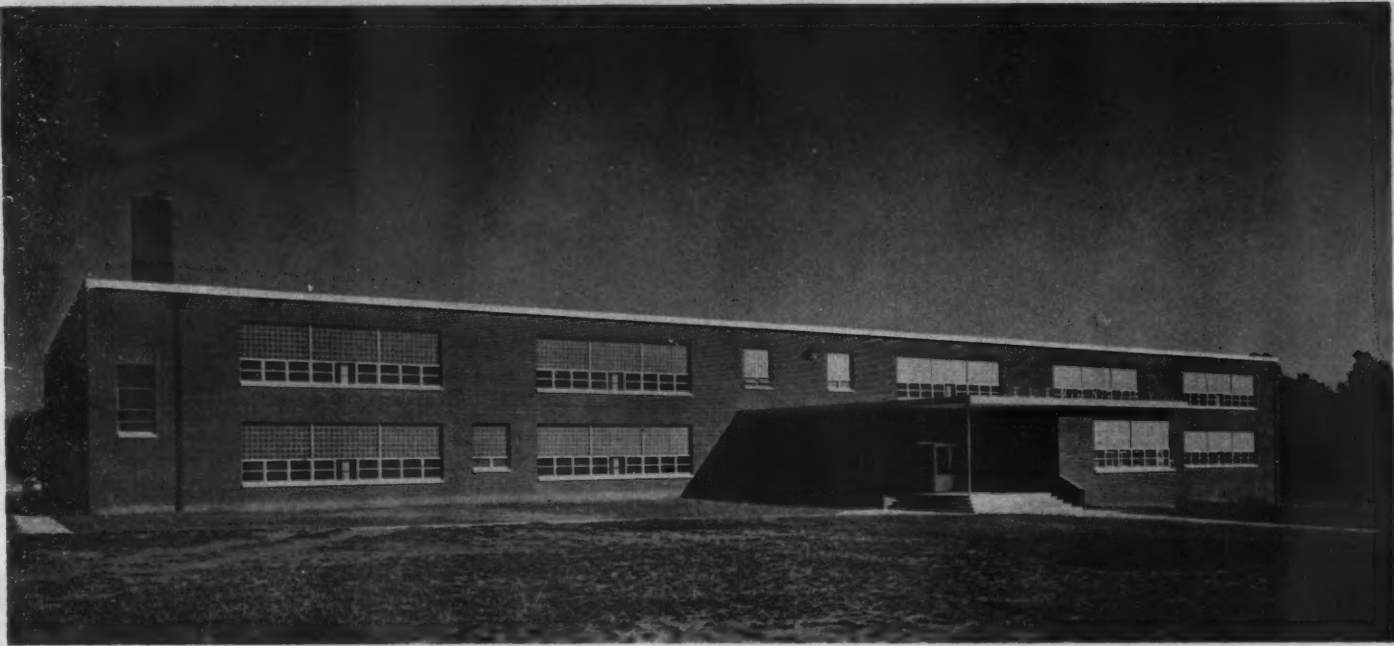
The Gymnasium, with a 48 by 84 ft playing court and folding bleachers to seat 1200, has locker and dressing rooms accessible both from within and from the playground. The Elementary School has eight classrooms on each floor. Lower-grade rooms, on the first floor, each have a special wardrobe, toilet and drinking fountain. On this floor are the elementary cafeteria, kitchen, audio-visual and first aid rooms, library and office. On the second floor are a special music classroom for group activities, etc.; group toilets, lockers, and storage.

Both High School and Elementary buildings at Mineral Springs are of reinforced concrete frame, with brick-faced exterior walls backed up with cinder block. Auditorium and Gymnasium building are steel framed, fire proofed. All interior walls are cinder block, painted. Floors in High School are concrete, integrally colored light brown; in Elementary School, asphalt tile over concrete. Windows are projected, of aluminum; lighting is fluorescent; lockers are metal, ventilated. All door frames, exterior doors and stair doors are metal; classroom doors, wood. Chalkboards are green glass; tackboards, 1/4-in. cork. Heating is low-pressure, 2-pipe steam with wall-hung convectors thermostatically controlled. Gymnasium has overhead unit heaters, auditorium a central heating and ventilating duct system. Cafeterias also have a duct system with special exhausts from kitchens

Joseph Molitor Photos



MINERAL SPRINGS ELEMENTARY SCHOOL



Recreation room (left, below) is on second floor, serves as rehearsal space for dance groups, etc., for assemblies and as bad-weather play space. Library (right, below) is for school use only. Elementary building does not contain any facilities designed for community use

Joseph Molitor Photos



COST DATA

HIGH SCHOOL, GYMNASIUM

Construction including equipment, site development.....	\$728,477.23
Electrical.....	33,598.08
Plumbing.....	87,185.08
Heating, ventilating.....	115,073.00
Kitchen and cafeteria equipment.....	23,000.00

ELEMENTARY SCHOOL

Construction (as for High School).....	\$277,298.00
Electrical.....	13,155.00
Plumbing.....	18,493.00
Heating, ventilating.....	17,836.00
Kitchen and cafeteria equipment.....	11,800.00

COMPLETE PLANT

Total cost, excluding classroom furniture and fees.....	\$1,325,915.39
Total cubage.....	1,843,980
Total floor area.....	132,627
Cost per sq ft.....	\$9.90

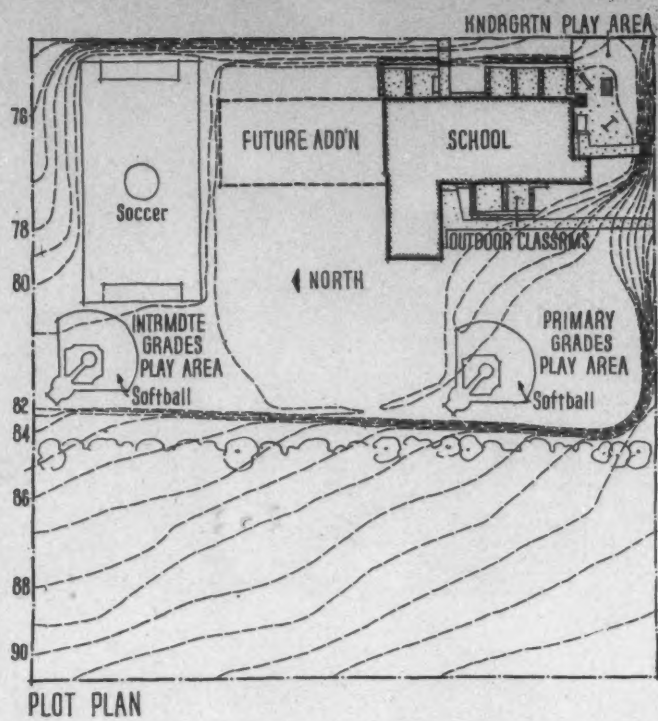


Lower elementary classrooms (photo above) are on ground floor; note work alcove at end, cabinets under windows, child-height fountain and sink, room toilets. Upper elementary classrooms (photo below) have almost as much built-in cabinet space, drinking fountains in corridors, group toilets

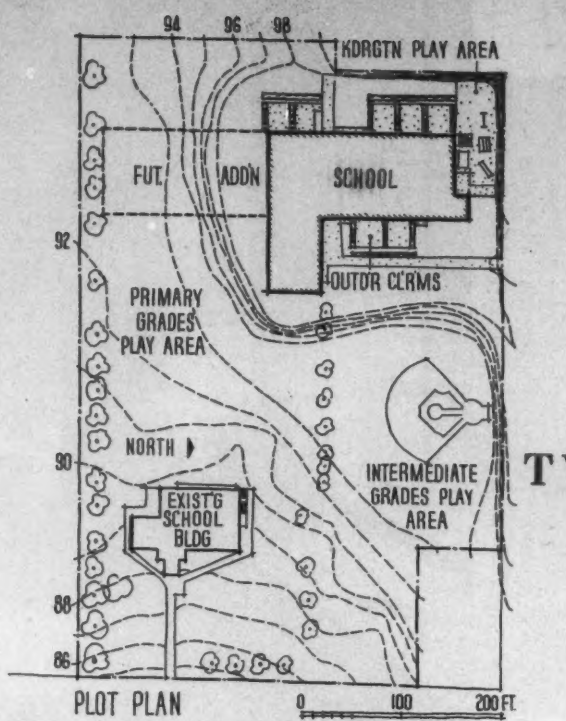


.00
.00
.00
.00
.00
.00

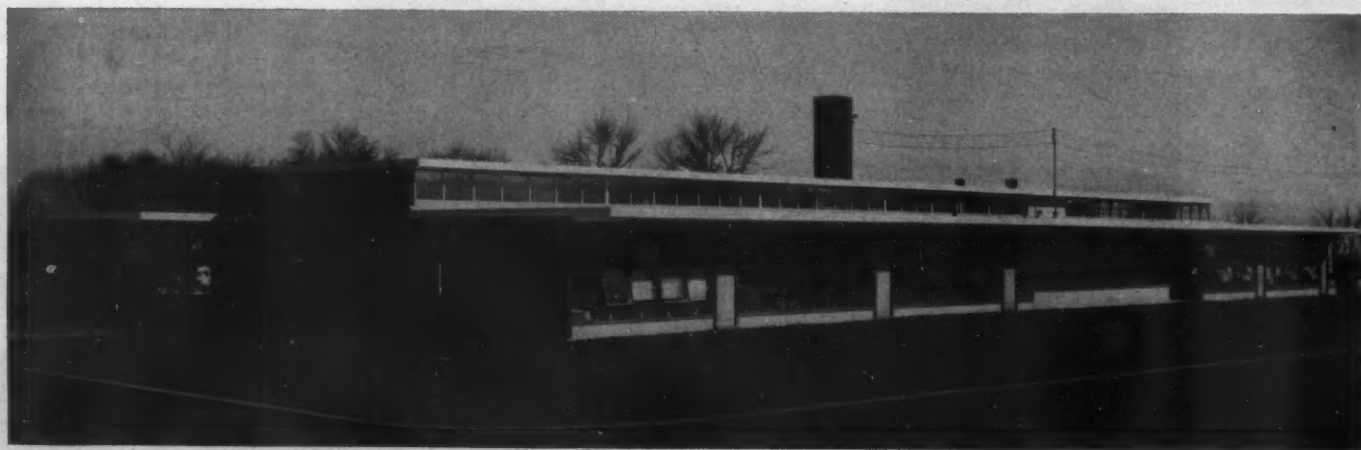
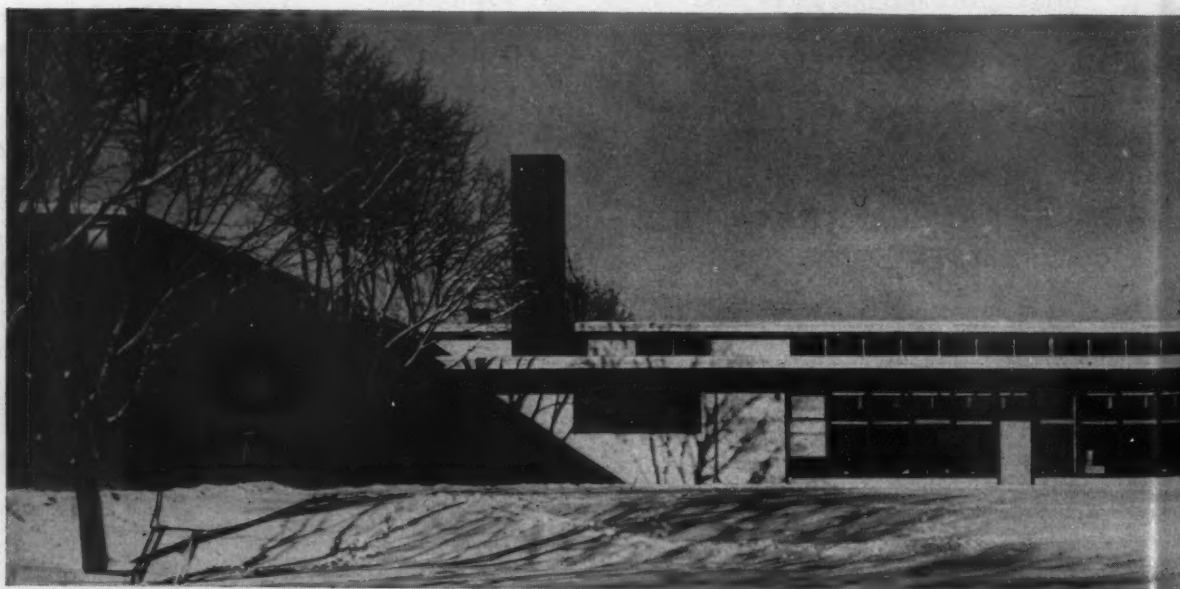
RD



NOB HILL SCHOOL



H. M. GILBERT SCHOOL



*John W. Maloney and
John H. Whitney, Architects*

*Lincoln Bouillon & Assoc.
Consulting Engineers*

*W. H. Witt & Co.
Structural Engineers*

THE BOARD OF EDUCATION of District 7 in the City of Yakima faced a familiar problem: overcrowded facilities in a growing locality; a rigid necessity for economy; and an educational philosophy that demanded a building ("in which," in the words of its Superintendent, M. L. Martin, "children could live actively in a friendly, informal school atmosphere") designed to house a flexible, functional program aimed at developing the

ELEMENTARY SCHOOLS IN YAKIMA, WASHINGTON

Dean Spuler Photos



Using identical plans and construction for these two city schools, both with a minimum of outside walks and one with an excessive amount of site grading, resulted in the following low total costs (excluding fees):

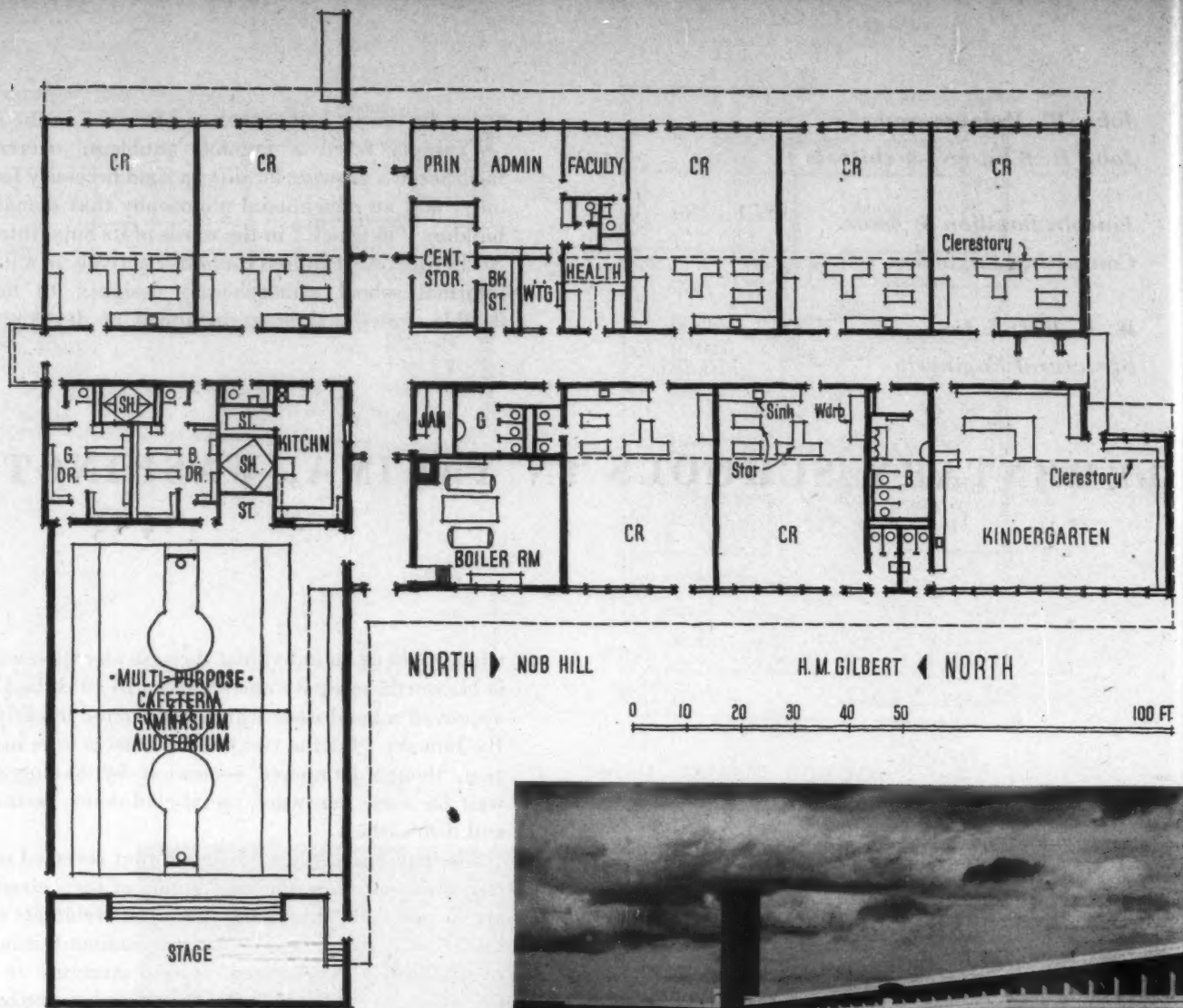
Total (average) construction cost, each school	\$205,822.50
Cost per pupil	\$858.00
Sq ft per school	20,950
Cost per sq ft	\$9.82
Cu ft per school	295,038
Cost per cu ft	\$0.70

whole child as an individual through an expressed belief in his worth, integrity and security. In 1948 the District approved a bond issue which was floated in early 1950. By January 1951 the two needed schools were in operation, though hampered somewhat by having still to wait for some hardware, metal-clad doors, incinerators and dishwashers.

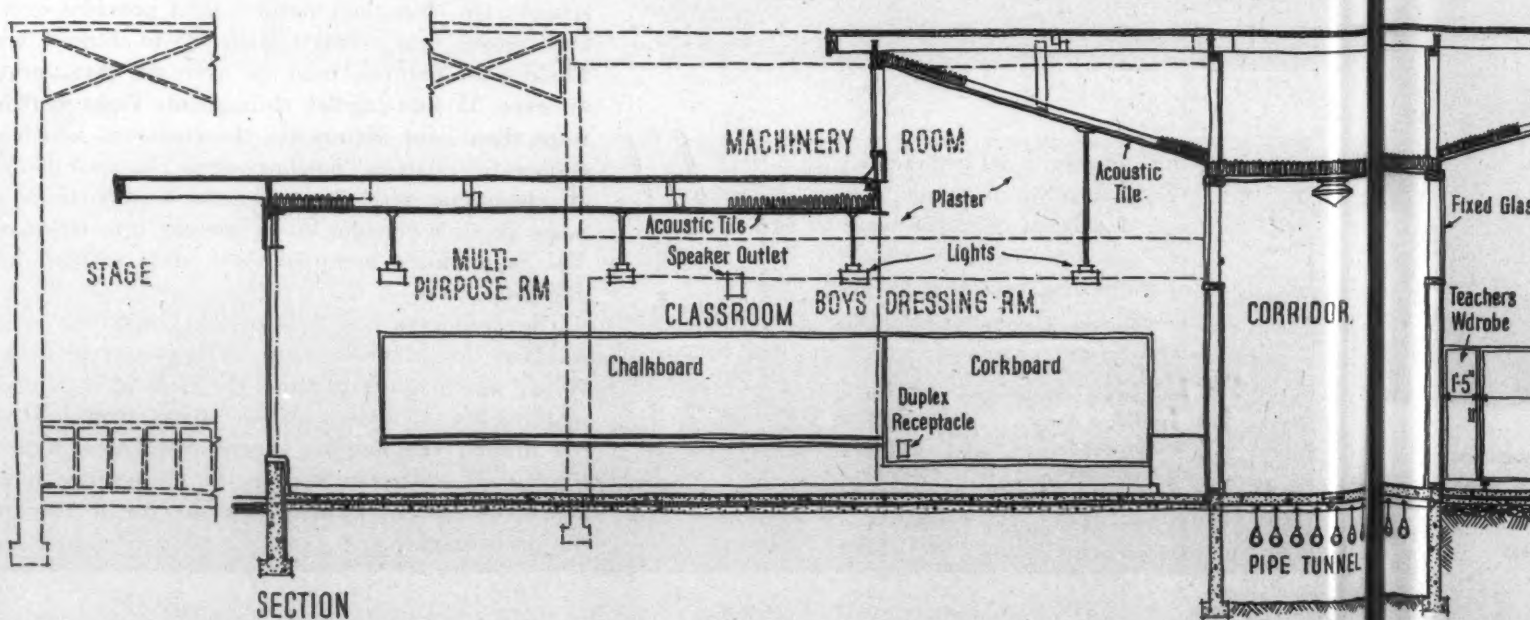
The two buildings, so designed that reversed orientation does not affect the functioning of their classrooms, are identical. In discussing them the architects express the belief that, when economy is paramount, it is better to establish a satisfactory, typical structure to which the site must conform, rather than to relate the building to the site. At the same time, what with the changing building materials situation and a progressing educational program, they do not regard a prototype as sacred. The scheme shown here, used three times in Yakima and once in The Dalles, Oregon, is now up for re-study in their office.

In the present plan, classrooms are end-on, with a clerestory lighting the rear third and an exterior wall practically all glass save for a 17-in. sill ("sills might better be desk-height," comments the principal of one school). On clear days natural light provides over 70 foot-candles near window walls, 35 in darkest areas. Fluorescent fixtures, used on overcast days, provide an even 35 foot-candles throughout. Light borrowed from classrooms illuminates the corridors, which are, deliberately, narrow "bowling-alleys;" exterior doors for all classrooms reduce the corridor's importance and make possible corridor doors opening into classrooms. The State Board accepted these ideas without much difficulty.

The architects now believe that, with one wall of windows and the clerestory, ceilings can be lowered 16 in., which would improve the scale of the building with respect to children and would save 16 in. of material around the building's perimeter. Also, although the end-on classroom is expected to continue to help hold down cost, its framing may have to change due to the steel situation.

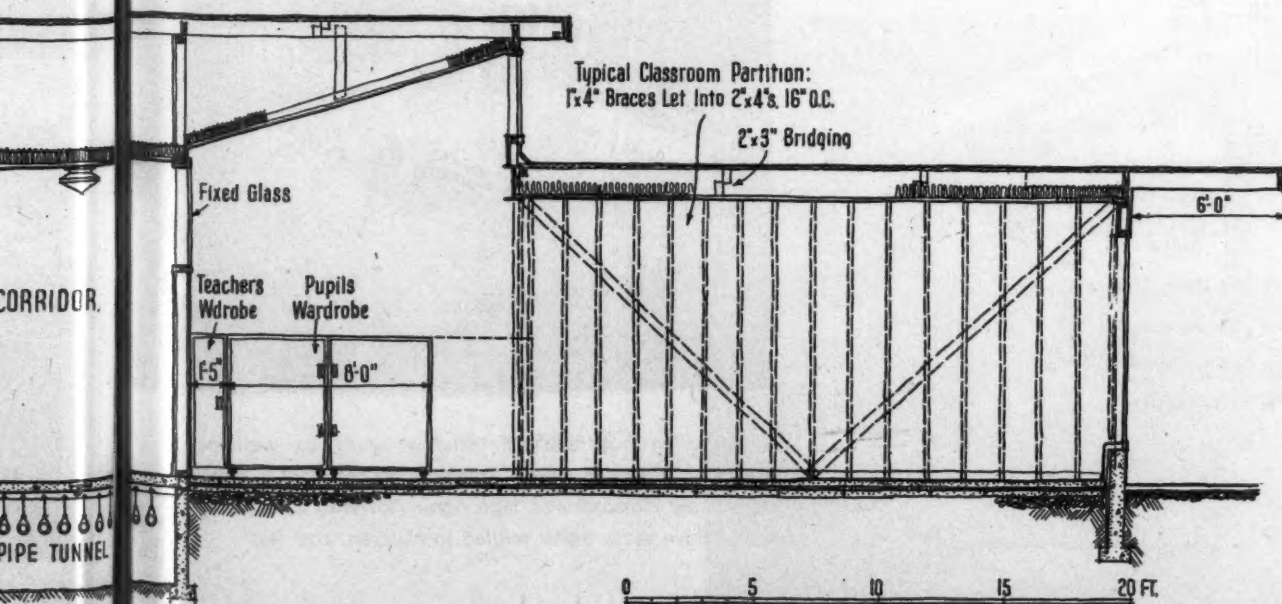


Dean Spuler Photos

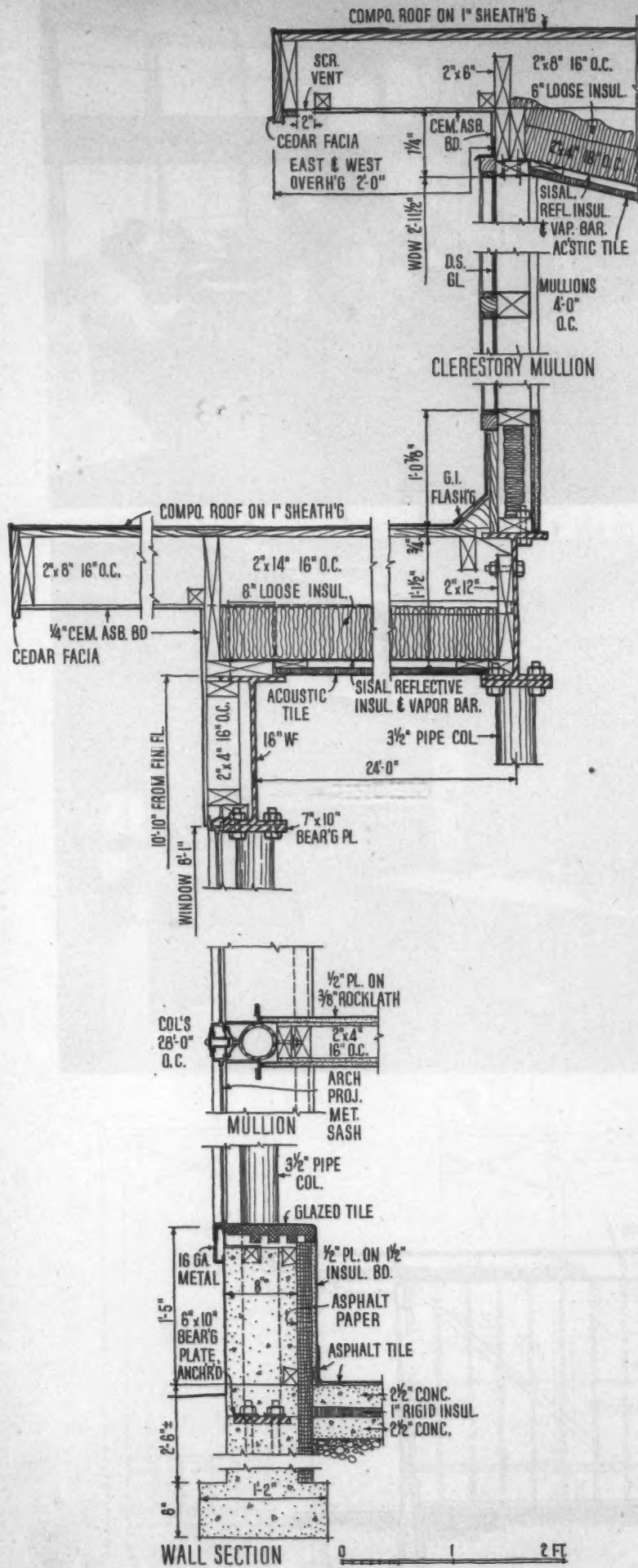


YAKIMA SCHOOLS

Photos at right: completely glazed exterior wall of typical end-on classroom, and clerestory-lighted interior wall of kindergarten. Borrowed lights illuminate corridor. Construction: classroom wing is wood frame with steel girders; multi-purpose room, reinforced brick and steel joist framing with brick-veneered tile walls. Floors are split concrete slabs, radiant heated, with asphalt tile surface. Interior walls are painted plaster over gypsum lath; windows are steel, projected; lighting is fluorescent; mechanical ventilation is confined to kitchen and toilets. All cabinets, including coat rack strip in kindergarten and wardrobes in classrooms (see following pages) were specially designed.



YAKIMA SCHOOLS



End of classroom wing, multi-purpose room in background. Classroom wing can be extended if future needs require



Kindergarten has bilateral window walls as well as clerestory at interior corner. Architects do not want to make clerestoried classrooms so high again; lowered 16 in., they would have scale better related to children, cost less

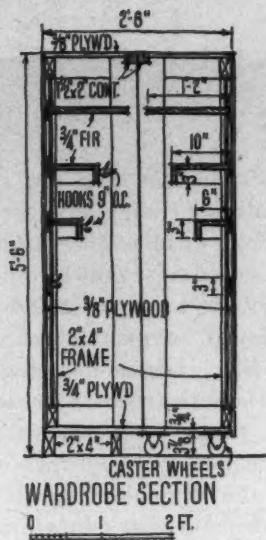


Photo and detail above show wardrobes with hinged front halves on casters so they can fold in. Below, cabinet work at inner end of a typical classroom. Superintendent states that clerestories have caused no maintenance problem (except that they mean more glass to clean) nor have the fluorescent fixtures. While exterior doors to classrooms have caused "some mud in initial months, when grass and walks are in the difficulty will be overcome. The doors' advantages outweigh this minor problem"



Dean SpulerPhotos



BARRINGTON CONSOLIDATED HIGH SCHOOL

Perkins & Will, Architects — Engineers

TWENTY YEARS or so have passed since any important new secondary schools were built in Illinois. Meanwhile, as with all educational age levels, pedagogy and its architectural expression have changed. In elementary schools, of which many more have been built, the changes are more frequently evident. Nowadays the primary child's activities center around his home classroom; elementary schools, then, become a series of almost independent units, to be expanded horizontally as much as site and economic considerations permit. High school curricula, in contrast, have become more specialized, with emphasis on the individual subject — academic, scientific, manual arts, physical education, commercial — rather than the grade or age level. Stu-

dents have more freedom of selection, too; put these factors together and the result is a traffic jam every 55 minutes when students pass from social sciences to shop. Since every part of the high school must thus be quickly accessible to every other part, the loose, extended plan of elementary schools is almost completely inappropriate. Again, the high school classroom has changed from an academic to a special facilities room: witness the importance of gymnasiums, shops, crafts rooms, etc. Industrial and home arts, no longer solely vocational subjects, are integrated into the curriculum for all students in application of the theorem that education for democracy implies appreciation of every element of the community. Emphasis on learning by doing means that



Hedrich-Blessing Studio Photos

Photo above: academic building at right, separate gymnasium at left. Eventually an arts wing and covered walks are to connect the two. Right: academic building; at left is community entrance to basement cafeteria-social hall, choral and band room, main floor shops. Facing page: exterior and interior, library wing adjoining main entrance. "Browsing center," down a few steps at glass-walled end of library, is casually furnished to invite comfortable reading



ool

BARRINGTON, ILLINOIS

these
y 55
hop.
ckly
plan
pro-
nged
s the
etc.
onal
stu-
n for
f the
that

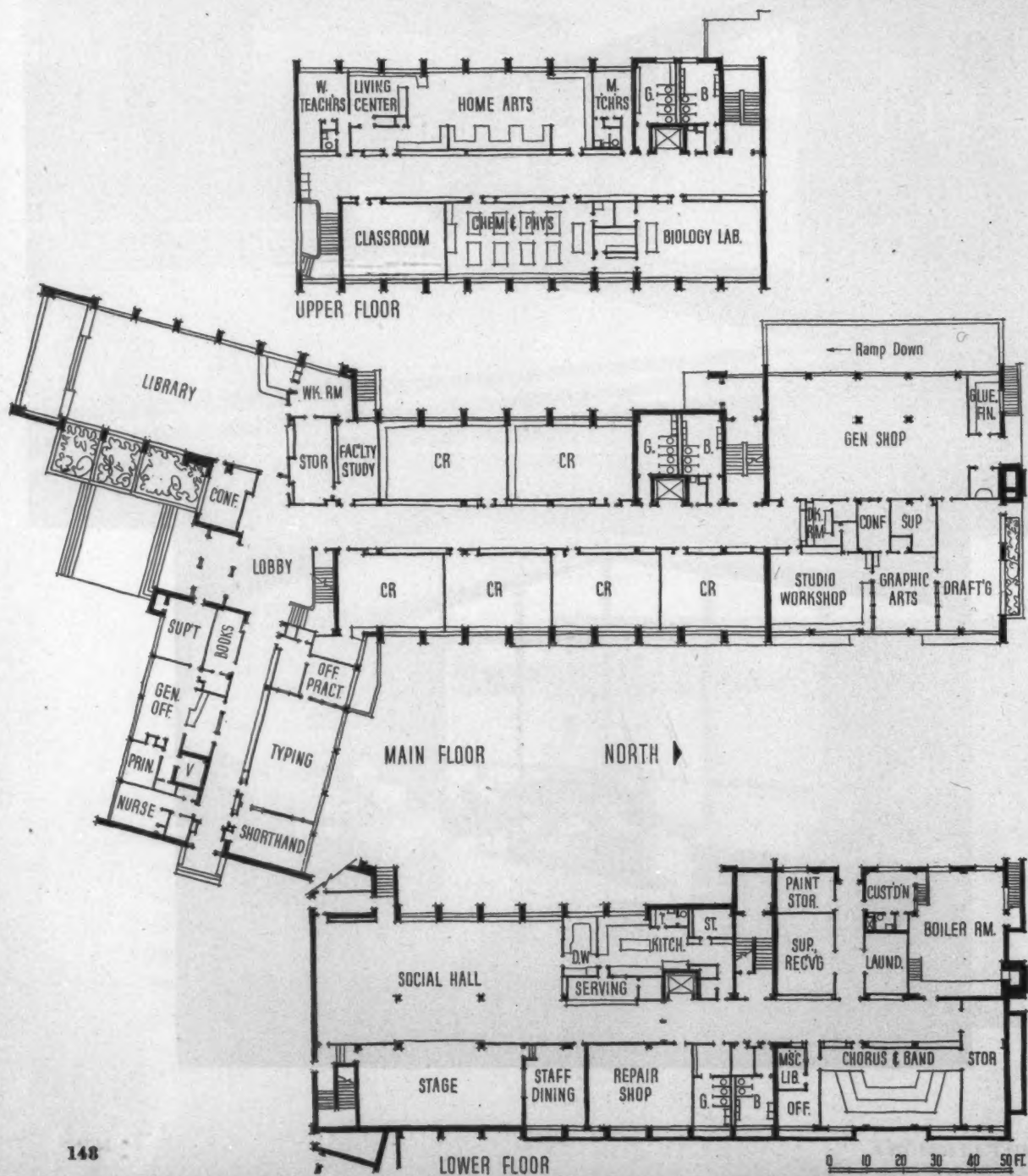
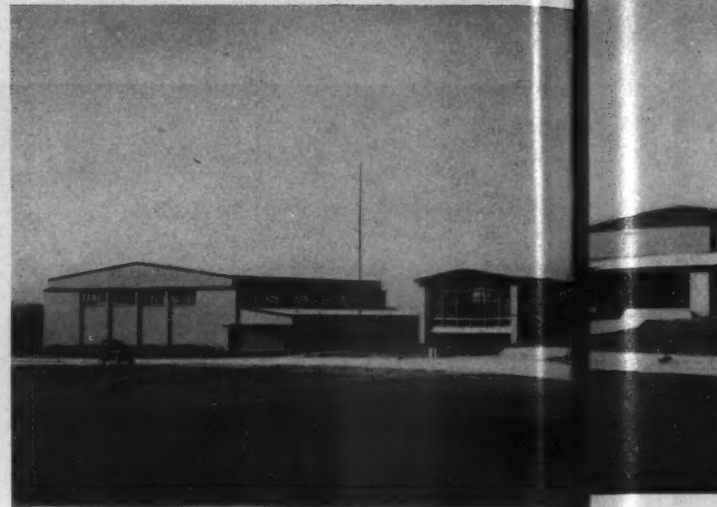


BARRINGTON HIGH SCHOOL

the pupil studies government not from texts, but by practicing parliamentary procedure.

Barrington's new high school was planned for a rapidly growing suburban and farm area, consolidated since the war into one high school district. More than 30 miles from Chicago, it has a high proportion of non-commuting population needing a broad program to fit both village and countryside. Voters approved purchase of a 73-acre site which provided plenty of room, and a complete building and site development program was laid out. High cost has limited immediate construction to only two buildings, the academic unit and gymnasium shown here. Ultimately a separate arts wing, auditorium group, more teaching space, football and baseball stadia, outdoor gymnasiums, physical education areas, ice hockey and skating ponds, open-air amphitheater, greenhouses and agricultural plots are contemplated. Squeezed by costs, the buildings do

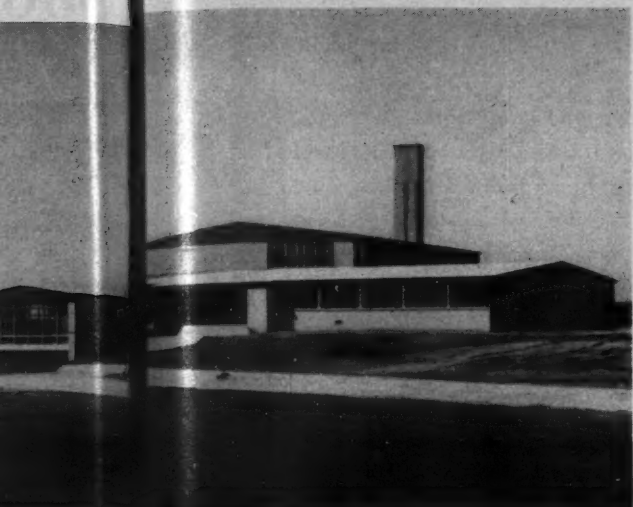
Hedrich-Blessing Studio Photos



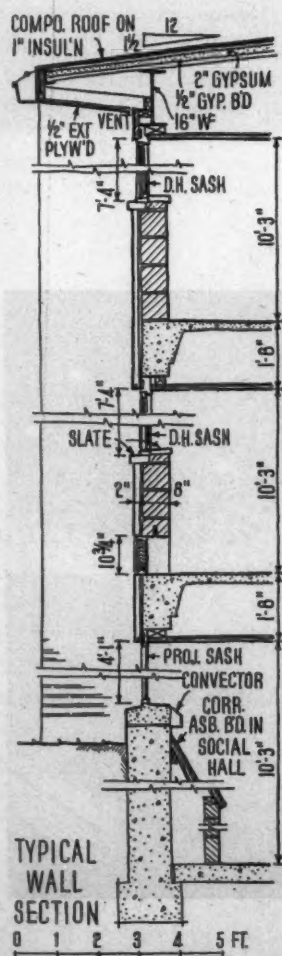
Each class
All have
tile ceiling
fluorescent
lators, b
bottom: s
laborator
off by low
whose be
constructi

COM
1" IN

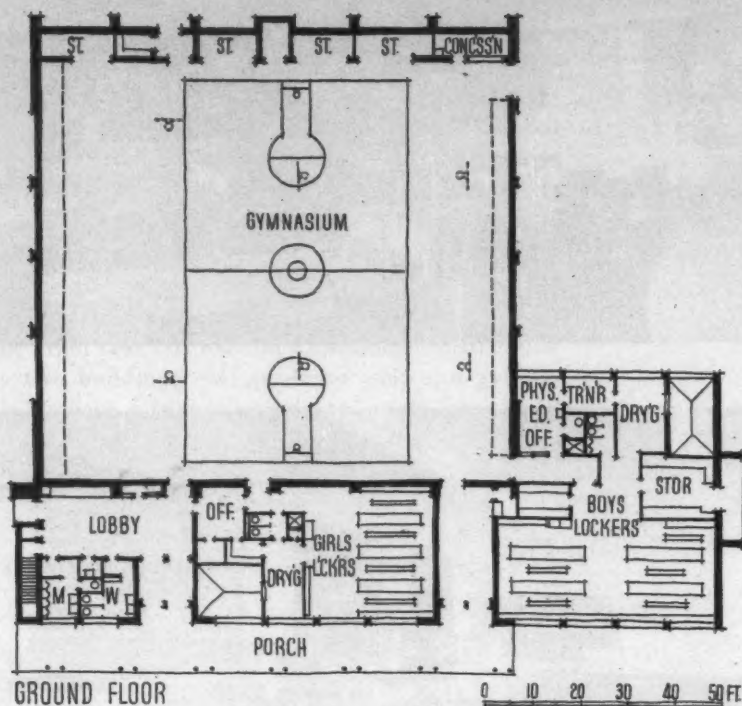
TYP
W
SEC
0



Each classroom is designed for a special purpose. All have painted concrete block walls, acoustic tile ceilings, asphalt tile floors, aluminum sash, fluorescent light, finned radiation, unit ventilators, blue glass chalkboards. Right, top to bottom: social science room; home economics laboratory with demonstration area at far end set off by low tiled wall; drafting room; general shop whose beamed ceiling, formed by concrete pan construction, accommodates fluorescent light strips



BARRINGTON HIGH SCHOOL



Gymnasium, with masonry walls and steel-framed roof, has exterior of same gray textured brick used on academic building. A motor-driven folding partition can divide it into separate gyms for boys and girls. Floor is polished maple over concrete slab. Entire high school was designed to provide a community building for use of non-school groups whenever possible. "Campus" planning makes any facility accessible without opening entire building. This, says the Superintendent, has worked out very well

contain many compromises. Ideally, fine and industrial arts would be centered in a separate wing, as they eventually will be, between the academic building and the gym. Like other portions of the school, these are used 'round the clock by adults as well as students. The main building represents maximum concentration of multi-purpose space into a compact, low-cost structure of reinforced concrete construction, designed on a modular basis and with concrete block partitions to simplify future changes. The gymnasium also is planned for multiple use; it can be divided to take boys and girls simultaneously, seats 1526 in folding bleachers, or ac-

commodates more than 2500 for community meetings.

In general the people of Barrington think well of the new high school now that they've gotten used to modern architecture. There is still some opinion that the outside is unattractive, although "from inside looking out," said one citizen, "it's beautiful." Nearly everyone deplores the present lack of a real auditorium and would like to see the two present buildings physically connected. The School Superintendent, F. C. Thomas, states that Perkins and Will gave Barrington the school it needed, with a quiet, friendly atmosphere to which children would want to come.

Hedrich-Blessing Studio Photos





Williams and Meyer Photo

VETERANS ADMINISTRATION RESEARCH HOSPITAL

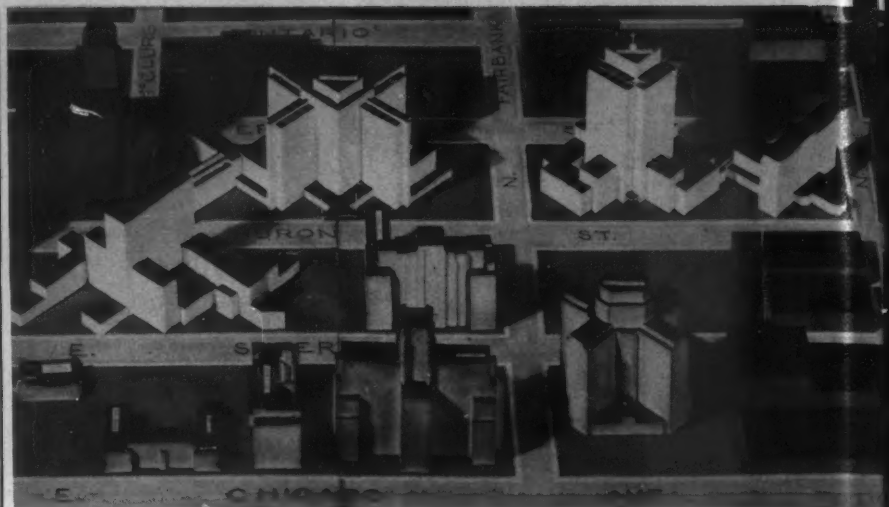
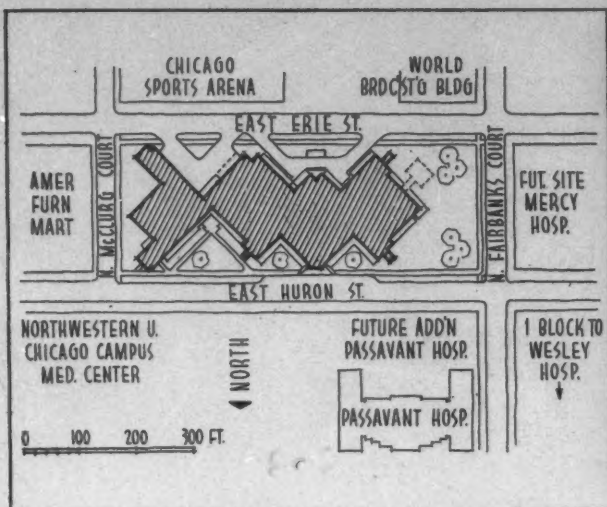
CHICAGO, ILLINOIS

Schmidt, Garden & Erikson

Architects and Engineers

IT IS PUTTING IT MILDLY to say that this is not a typical hospital — it is about as far from a typical hospital as it is now possible to go. As the VA's Research Hospital it brings to a focus all of the specialized diagnosis and treatment (especially cancer) not provided by other VA hospitals. In these fields it runs the full gamut now known to medical science, from bedpan to betatron.

If it is bold in medical matters it is also bold in architectural planning. To get a 500-bed hospital, with its Rube Goldberg array of special equipment, in a fairly congested city area (it is adjacent to the Medical School of Northwestern University's near-north-side campus



in Chicago) required some strong measures and some new groupings of hospital facilities. It is, then, a hospital to be studied with interest, but not one to be put into a notebook too literally.

The site is a city block 633 by 128 ft, which will eventually be surrounded by tall buildings. On-site parking was seriously considered and reluctantly abandoned. But a power plant was required; it was put almost entirely below ground. Also required were quarters for 50 resident doctors and 90 nurses.

In the design of the hospital, major consideration was given to securing favorable orientation and providing as much light, air and sunshine around the building as possible, hence the diagonal scheme. It was anticipated that some day tall structures will be built on the adjacent sites. However, the location is such that to the north and northeast the view is across the interesting buildings of the Northwestern Campus to Lake Michigan.

The typical floor developed after much study is a cruciform plan composed of two equal nursing units with a large central core containing common facilities and the vertical circulation. This arrangement provides an ideal location for the nurses station with a minimum amount of travel along each bed wing. The solarium and four-bed wards receive excellent sunshine and to a lesser degree so do the single-bed rooms. The diagonal light courts insure a maximum amount of light and air for all of the rooms, together with interesting views of the lake and city. The placing of the stair at the ends of the extremely narrow wings freed the plan and added considerably to the particular character of the building. The shape of the stairway was continued over the roof to provide space for fans and pipes. The lower floors where more space was needed expanded easily to contain the medical services in air conditioned space. Even with these areas so large, they are not far from the elevators.

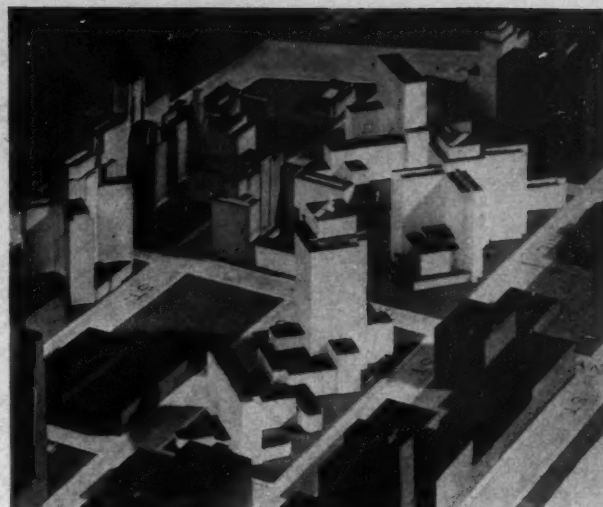
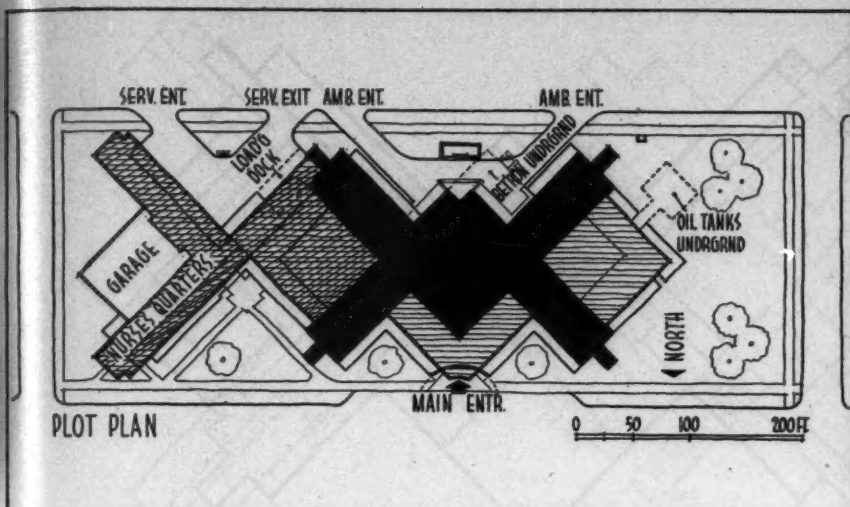
After and during the development of the typical bed floor plan much consideration was given to the location of the departments of the hospital.

The large areas needed by the x-ray department, surgery, out-patients and administration, with their close relationship to other parts of the hospital required easy vertical communication. The fact that most of these spaces would be air conditioned suggested the development of large concentrated areas on either side of the elevators at the base of the building. This scheme has worked out very well. It has been possible efficiently to organize these large departments on a square basis with all of its attending economies, rather than in long wings in the usual fashion. This grouping together has concentrated the air conditioning load and the large interior areas promote real economy in operation.

The form of the plan gives the building a classic silhouette and mass. The fenestration was the result of the required room sizes and the tremendous variation in floor usages. The masonry piers were essential to permit a reasonable flexibility in arranging partitions. The cast aluminum spandrels were chosen because it was felt that a vertical treatment of the windows was more characteristic of the building than a pattern of windows. Wood double hung pivoted sash have been used for ease of cleaning and general maintenance. Stone was selected as the facing material to conform to the existing buildings on the Northwestern campus.

The first floor out-patient department, which also serves the functions of an admitting office, is ideally located. The use of one well-marked patients' and visitors' entrance eliminates the exasperating experience encountered in so many large institutions, of investigating a number of entrances until finally the right one is focused. The department is close to the elevators so that patients may be easily referred to other departments of the hospital.

The extensive x-ray departments on the second floor



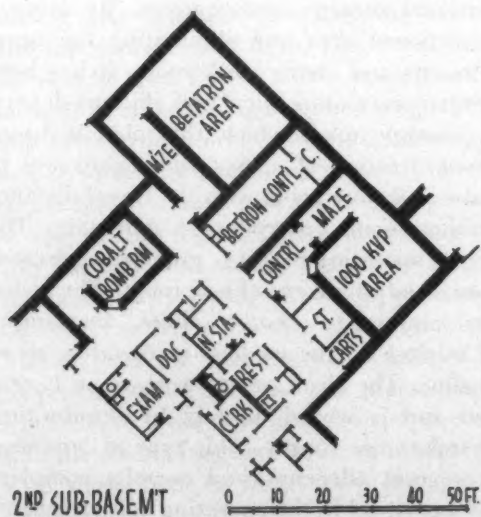
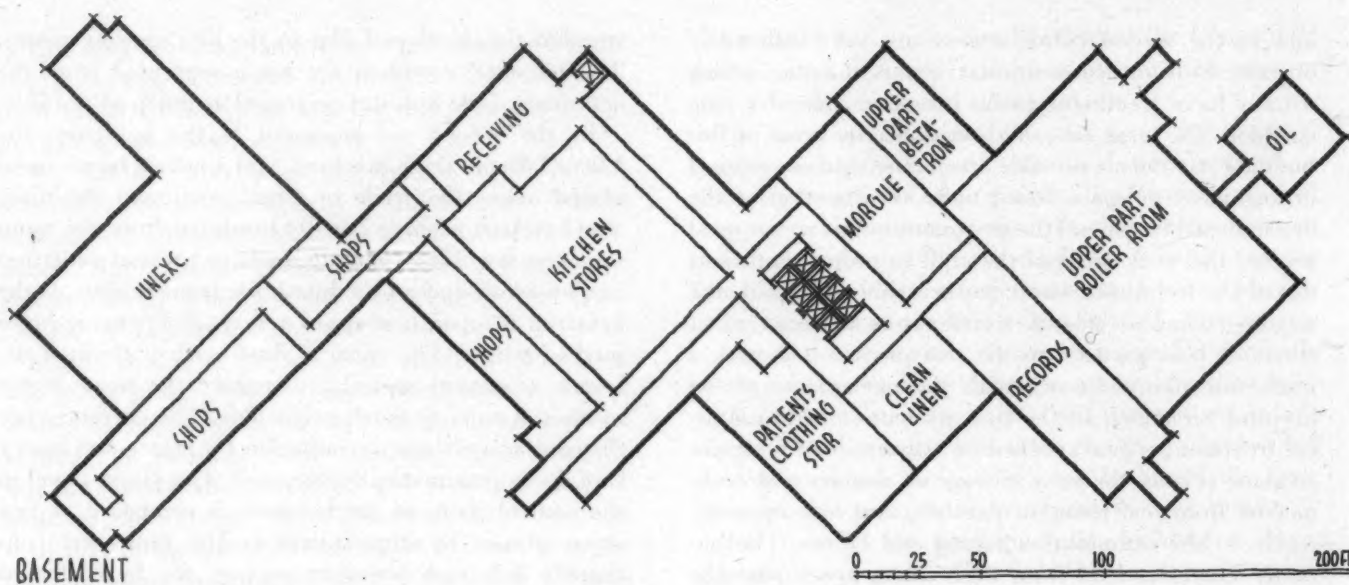
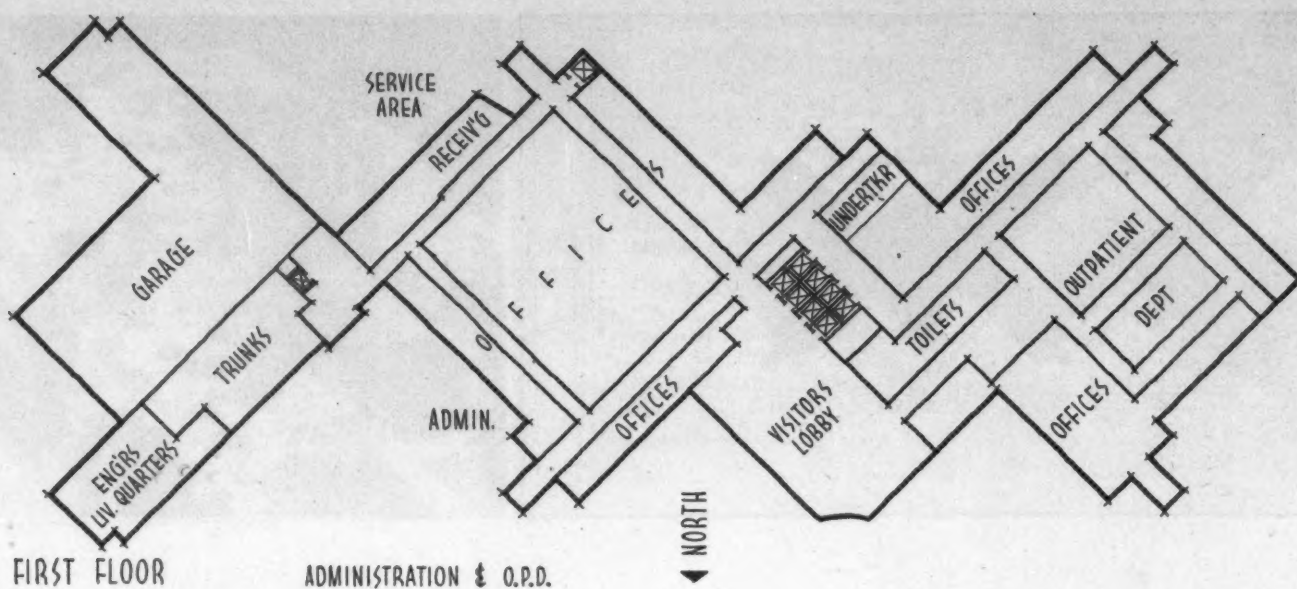
and in the second sub-basement are very differently organized from conventional arrangements, which usually have treatment rooms on either side of a long corridor. The large air conditioned interior areas of this building have made possible an efficient and economical arrangement of space based upon the function of the department. In general the treatment rooms are grouped around the work areas of the staff to promote efficient use of the technician's and doctor's time. The patients' waiting rooms are close to the elevators and convenient corridors lead patients to the treatment rooms with a minimum of interference with the movements of the hospital personnel. In the therapy section eight identical treatment rooms grouped on either side of a service corridor permit the easy passage of doctors and technicians from one room to another, and also open directly to the examination rooms and offices. The patients' corridors lead from the waiting space past the offices and examination rooms to the treatment rooms entering on the opposite side through a dressing room. This arrangement will overcome the ordinary confusion of one long busy hospital corridor serving everyone. The department also contains a radon plant for the manufacture of radon seeds. The room is heavily insulated with lead and equipped with special ventilating equipment to exhaust the air in the room quickly in the event of a plant failure. Facilities for the storage and shipping of radium, the calibration of instruments and a research physics laboratory and work shop are also provided. The heavy doors of all of the lead-lined rooms are pneumatically operated.

The radiographic x-ray or diagnostic department is organized upon the same general principle of grouping the treatment rooms around a service room to promote speed of operation. The six treatment rooms are arranged around the developing room so that film may be passed from each room directly. The drying room opens conveniently into the film filing space, which in turn

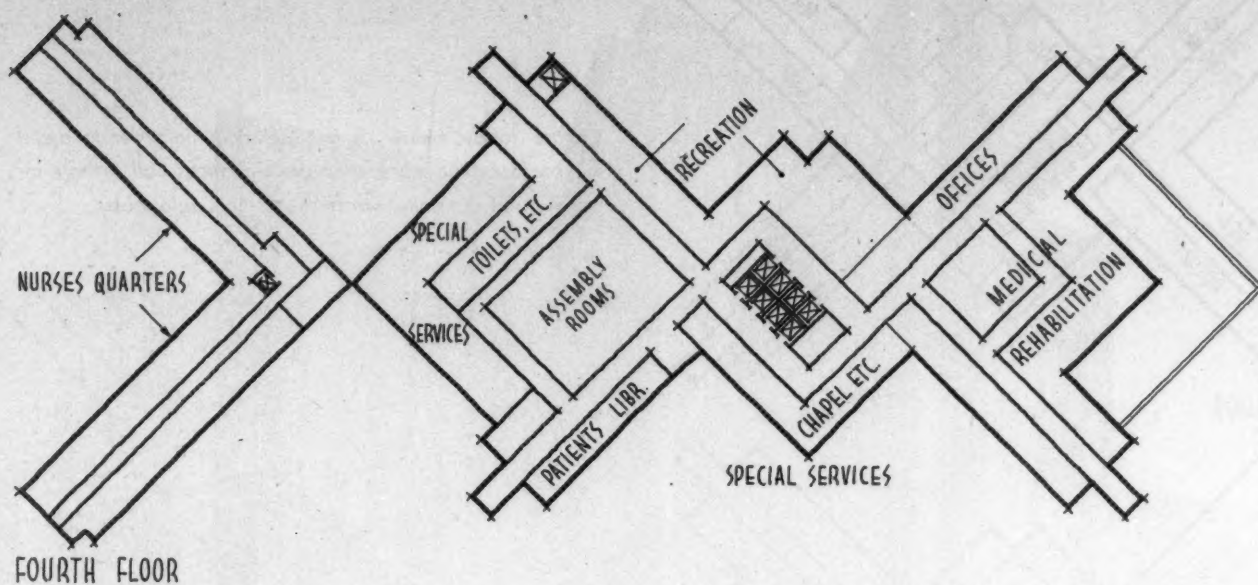
supplies the developed film to the film viewing rooms. The patients' corridors are again separated from the activities of the hospital personnel as much as possible.

In the second sub-basement is the betatron, the 1,000,000-volt x-ray machine, and a cobalt bomb room placed below the grade to afford maximum shielding. The betatron room is heavily insulated from the main structure by thick concrete walls to prevent radiation and by an air-space to reduce noise transmission, as the betatron in operation emits a very disagreeable high-pitched whine. The room is lined with perforated asbestos acoustical material to reduce the noise factor inside the room as much as possible. The entrances are shielded against scatter radiation by mazes and heavy lead doors pneumatically operated. The vision panel in the control room of the betatron is composed of two water glasses to stop radiation. The tanks are continually fed fresh water to prevent the formation of algae. Two mirrors at the corners of the room permit the operator to see the patient during the treatment.

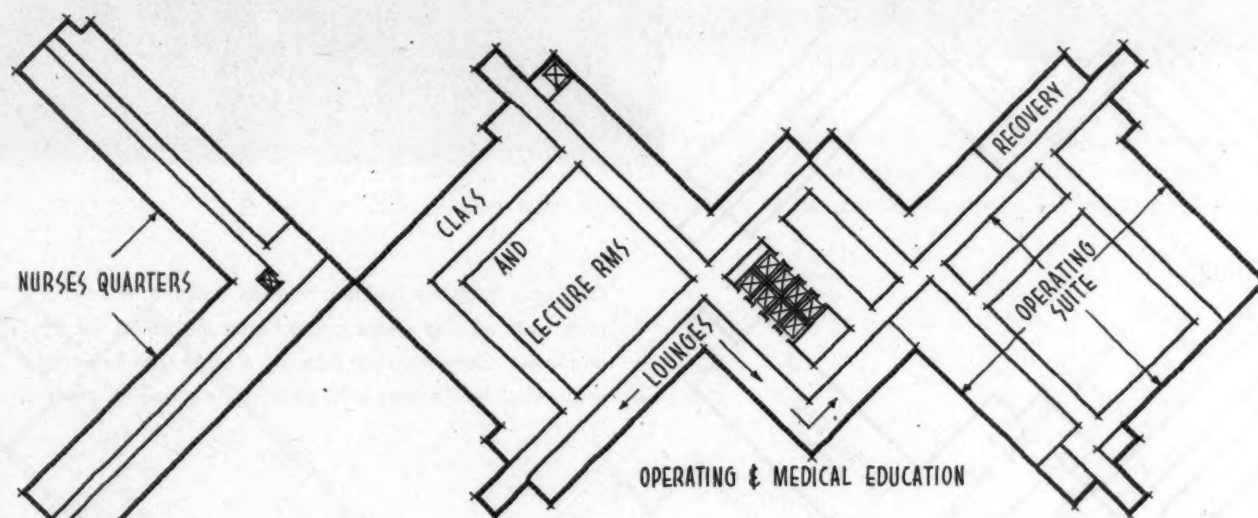
The third floor operating department differs greatly from conventional surgery arrangements. By using a large air conditioned area and eliminating the usual small scrub rooms and sterile work room, it has been possible to organize an economical and efficient department. The principle upon which this plan is based requires a concentration of nurses and technicians in the clean and soiled work room with the travel distance to the operating rooms reduced to a minimum. The efficiency of the operating rooms is greatly accelerated by using a small adjacent anesthesia room. The soiled utility room contains a clothes chute, instrument washer, and is close to the medical incinerator, all of which saves time. The clean nurses work room is centrally located and is served directly by dumbwaiter from the central sterile supply. This type of organization promotes great efficiency and permits complete supervision of personnel in the operating department.



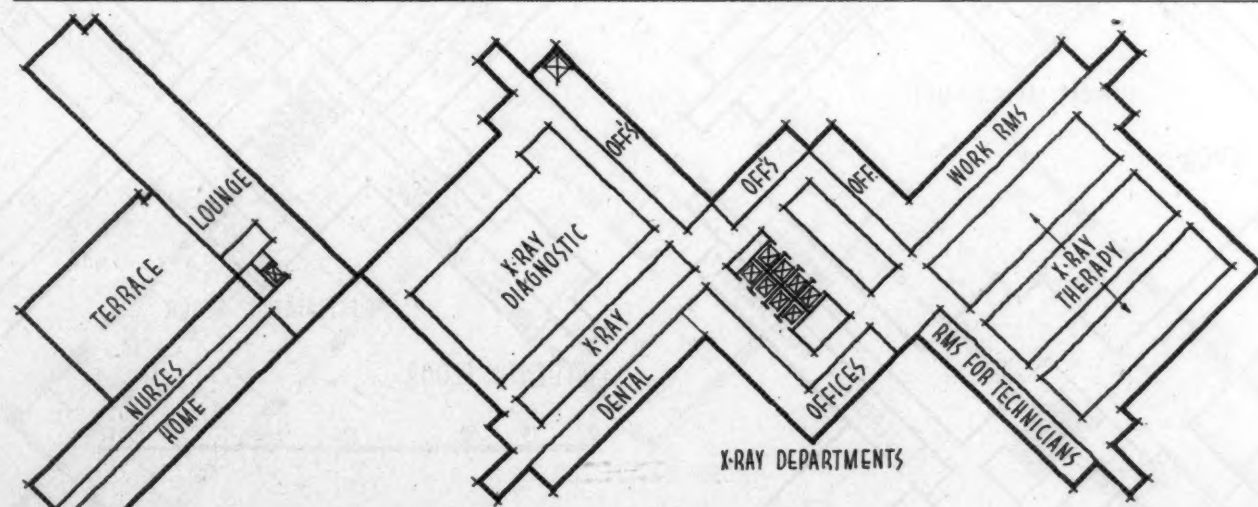
A cruciform plan with its base filled in gives good light, in a crowded city site, for upper floors and plenty of large areas in the base portion for offices, out-patient department and so on. The building goes down to a second sub-basement, to sink still other heavy requirements below grade — the power plant, locker rooms and storage, and the three-story betatron equipment, which is easily shielded when underground. Even so, all equipment could not be put below grade, and the fifth floor (plan not shown) becomes a machine center, especially good as a central location for air conditioning plant. Upper floors are diagrammed on succeeding pages



FOURTH FLOOR



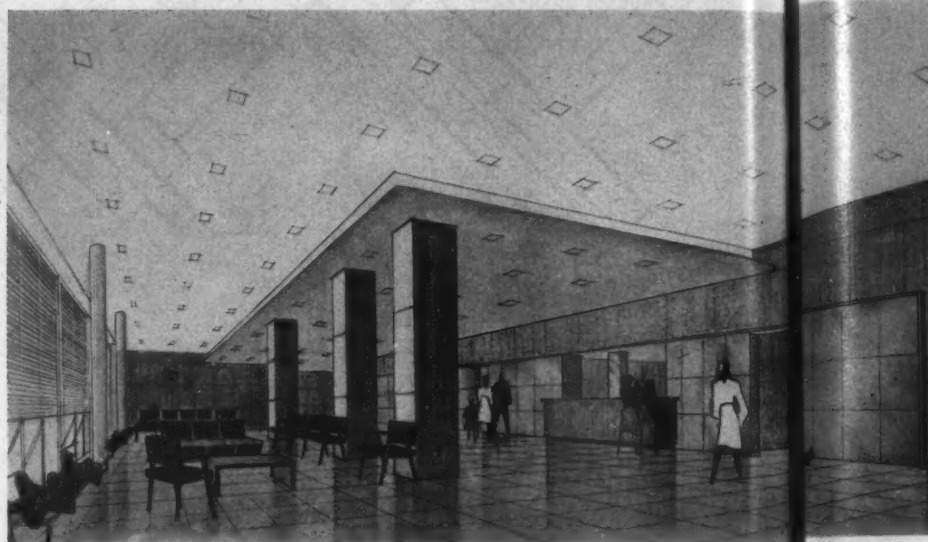
THIRD FLOOR



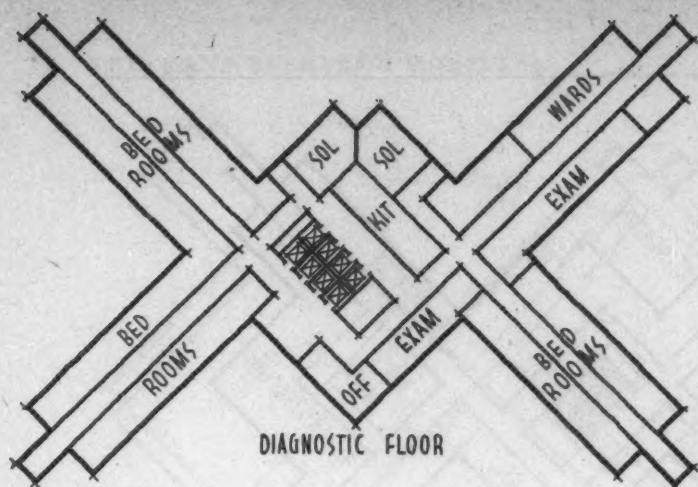
SECOND FLOOR

VETERANS RESEARCH HOSPITAL

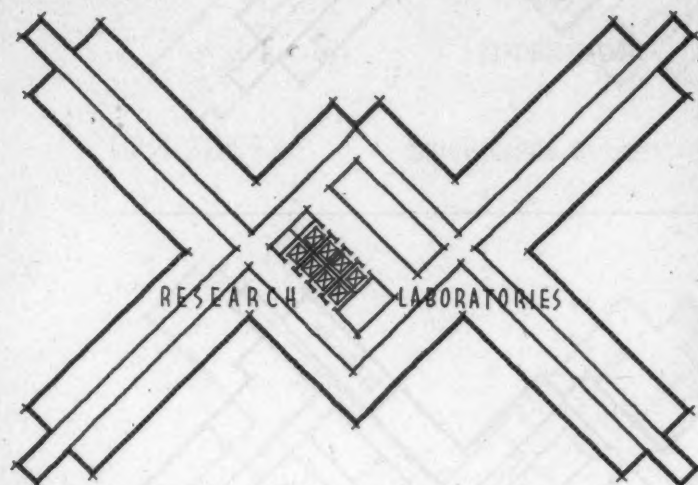
Visitors' lobby, below, is a huge room; in order to avoid the confusion of many separate entrances, all visitor, in-patient and out-patient traffic uses the single lobby



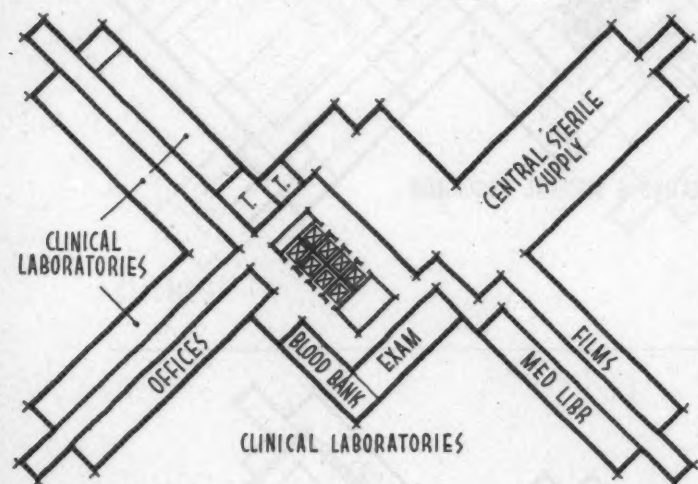
On upper floors the building narrows down to its cruciform plan, with nursing wings angled from the streets for light and views. Central portion becomes a large core for various shafts and for kitchens and other utility rooms as needed



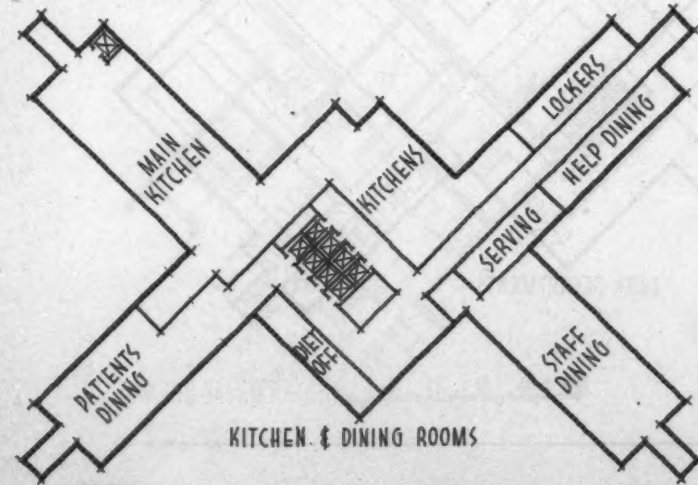
NINTH FLOOR



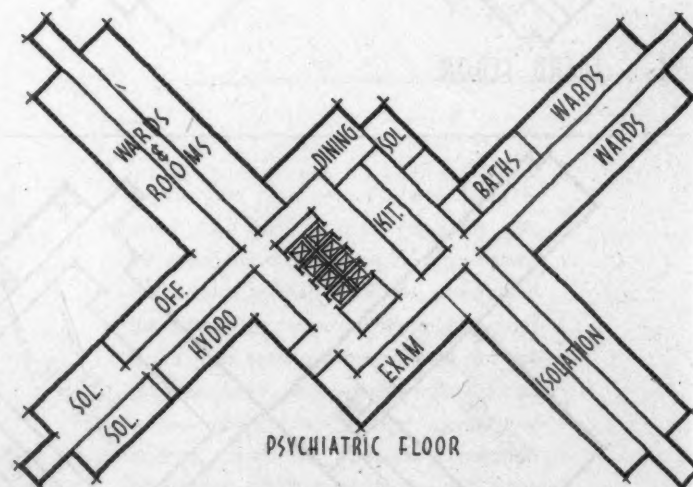
EIGHTH FLOOR



SEVENTH FLOOR



SIXTH FLOOR



FIFTEENTH FLOOR

0 25 50 100 200 FT



RD



This page: left, 300 ft high aluminum "Skylon" by Powell and Moya rests on cradle 40 ft above ground; right and opposite: Central Exhibition model. Opposite: far right, site plan; below, left to right, Crystal Palace; construction progress on river front, downstream section; site between Waterloo and Hungerford bridges before construction

Photos: British

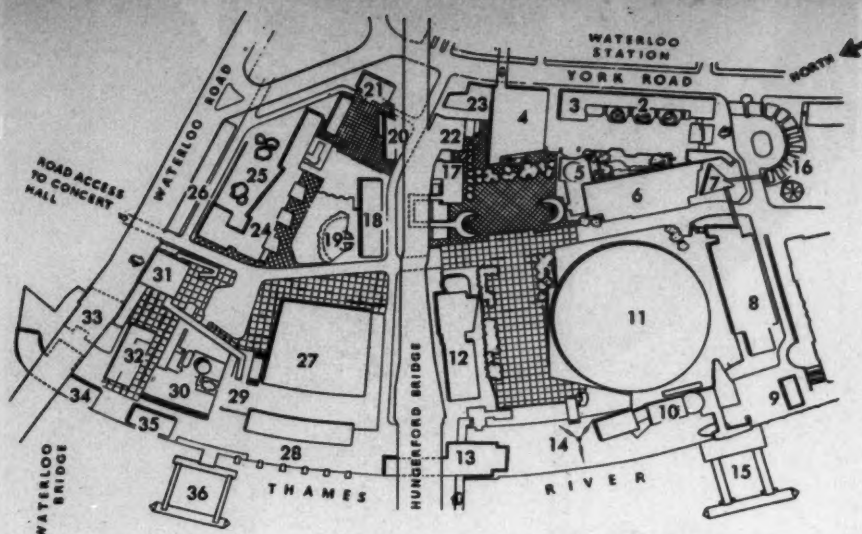


FESTIVAL OF

SOUTH BANK EXHIBITION

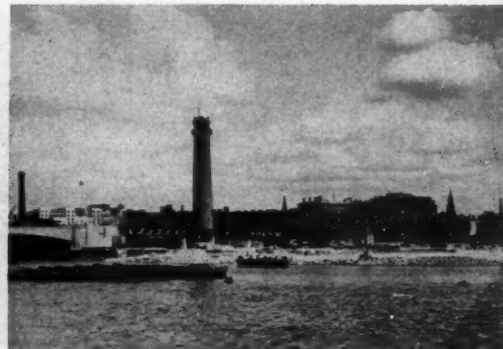
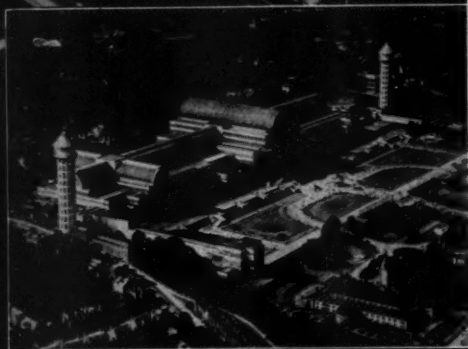
LONDON

Photos: British Information Service



LEGEND

- | | | |
|---|---|--|
| 1. Chicheley Street Gate | 13. Regatta Restaurant and Embankment Gate | 25. Courtyard |
| 2. Information and Post Office | 14. The Skylon | 26. Administration and Canteen |
| 3. Fairway Cafe | 15. Landing Stage | 27. Royal Festival Hall |
| 4. Station Gate; Escalator Hall for Underground | 16. Administration Block | 28. Seaside |
| 5. The Land of Britain | 17. The People of Britain | 29. 1851 Centenary Pavilion |
| 6. The Natural Scene and the Country | 18. The Lion and the Unicorn | 30. Shot Tower |
| 7. Minerals of the Island | 19. Unicorn Cafe | 31. Waterloo Bridge Gate; The New Schools and Design Review, below |
| 8. Power and Production | 20. Television | 32. Harbour Buffet |
| 9. The '51 Bar | 21. Telecinema | 33. Health |
| 10. Sea and Ships | 22. Locomotive Exhibit; Turntable Cafe, below | 34. Thameside Cafeteria |
| 11. Dome of Discovery | 23. Police and First-Aid | 35. Sport |
| 12. Transport & Communications | 24. Homes and Gardens | 36. Rodney Pier |



ONE HUNDRED YEARS AGO Queen Victoria opened the 1851 Exhibition at the Crystal Palace, first such structure designed specifically for a trade fair, in London's Hyde Park. May 3, 1951, King George, from the steps of St. Paul's, officially opened the Festival of Britain commemorating the fair of 1851.

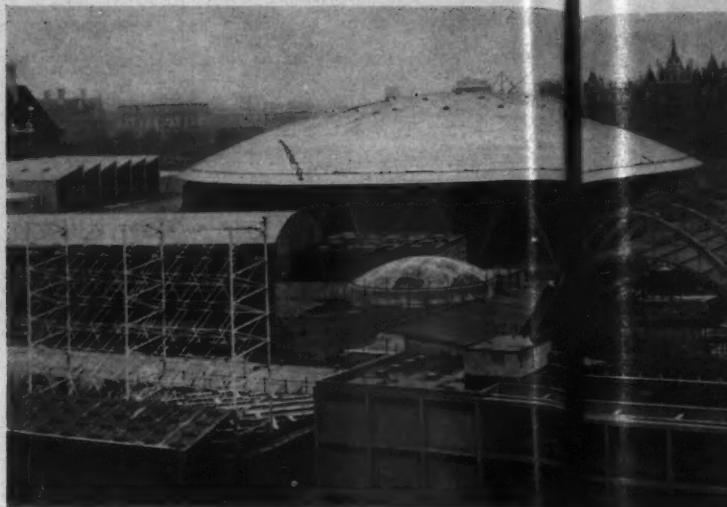
The famous old glass and cast iron Crystal Palace in inset above, designed by landscape gardener Joseph Paxton (subsequently knighted), was a single but elaborate structure for a localized exhibition. The South Bank Exhibition, occupying 27 formerly blitzed acres along the Thames between Waterloo and Westminster bridges, is credited to many men and is but the nucleus of a nationwide festival.

All of Britain is vigorously participating in its festival. The planned communities, special arts programs, scores of local festivals and both land- and sea-borne traveling exhibits will continue through September 30. Reflected throughout the Isles are the Festival's two aims: England's contributions to civilization, her strength of land and people.

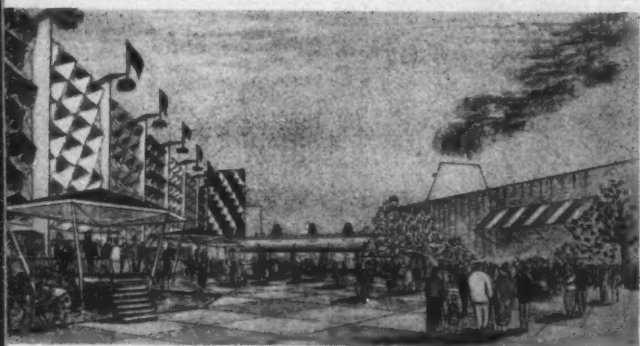
AL OF BRITAIN

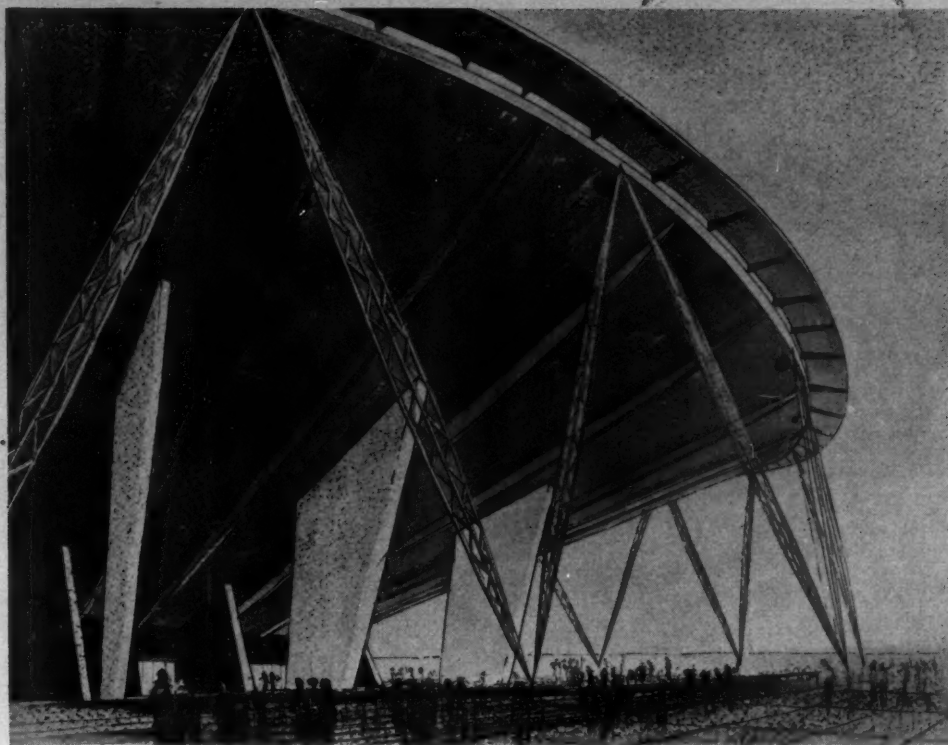


FESTIVAL OF BRITAIN

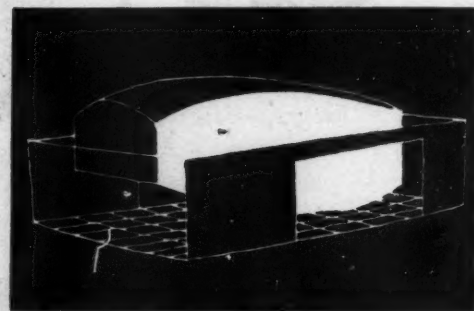


Covering an area of 104,000 sq ft, the 90 ft high Dome of Discovery posed unusual structural problems for architect Ralph Tubbs. Its saucer-shaped aluminum shell rests on unconventional supporting frames — 12 main arch ribs, arranged in criss-cross fashion form a triangulated structure. Dome which houses exhibits of British exploration and scientific research is shown in top photos, this page and opposite, under construction and as rendered. Left: Chichely Street Entrance Courtyard, Architects' Cooperative, architects. Information and administration offices are at left below decorative screen. Below: Two-Level Entrance to grounds from Waterloo Station and the Underground has rigid, elliptical arches, clear center roof; Gordon Tait, architect





Royal Festival Hall, one of Exhibition's most interesting buildings and the only permanent structure, left and bottom, includes 3000-seat concert hall. Acoustic problems required the auditorium to be a massive form suspended in the "envelope" of the



Adapted from *Architects' Journal*

outer framework (diagram above). Heating, ventilating and electrical design problems have been inter-related with the acoustic. Light shines under the auditorium and through the building at many points. In addition to the auditorium, the Festival Hall has restaurant, meeting rooms and exhibition space. Robert H. Matthews and J. L. Martin, architects



HOLIDAY HOUSE

QUOGUE, NEW YORK

George Nelson, Architect

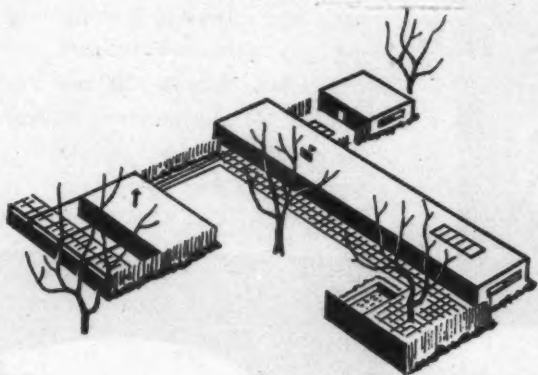


Photo
cour
The
Cop

T
by
of
to
me
en
lig
ho
th
N
eq

J

Photos by Ezra Stollen: Pictor,
courtesy of Holiday Magazine,
The Curtis Publishing Company
Copyright 1951



Fences and paving connect house, garden house and garage, define outdoor living areas. Photos center and above: garden house, inner court. House proper, 100 by 20 ft, is simplest structure possible. Entire compound is set back 100 ft on acre site

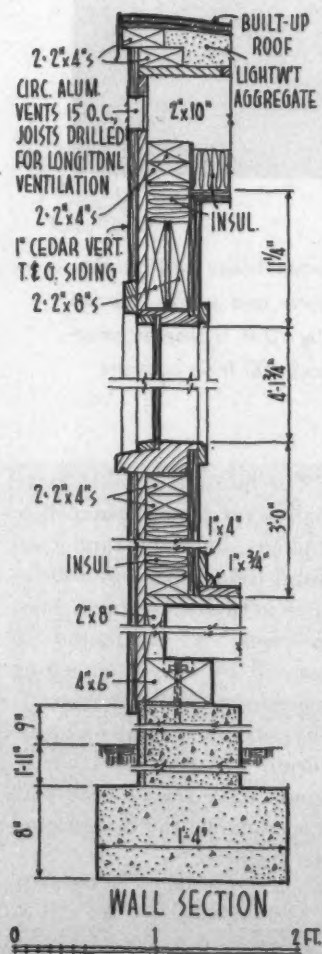
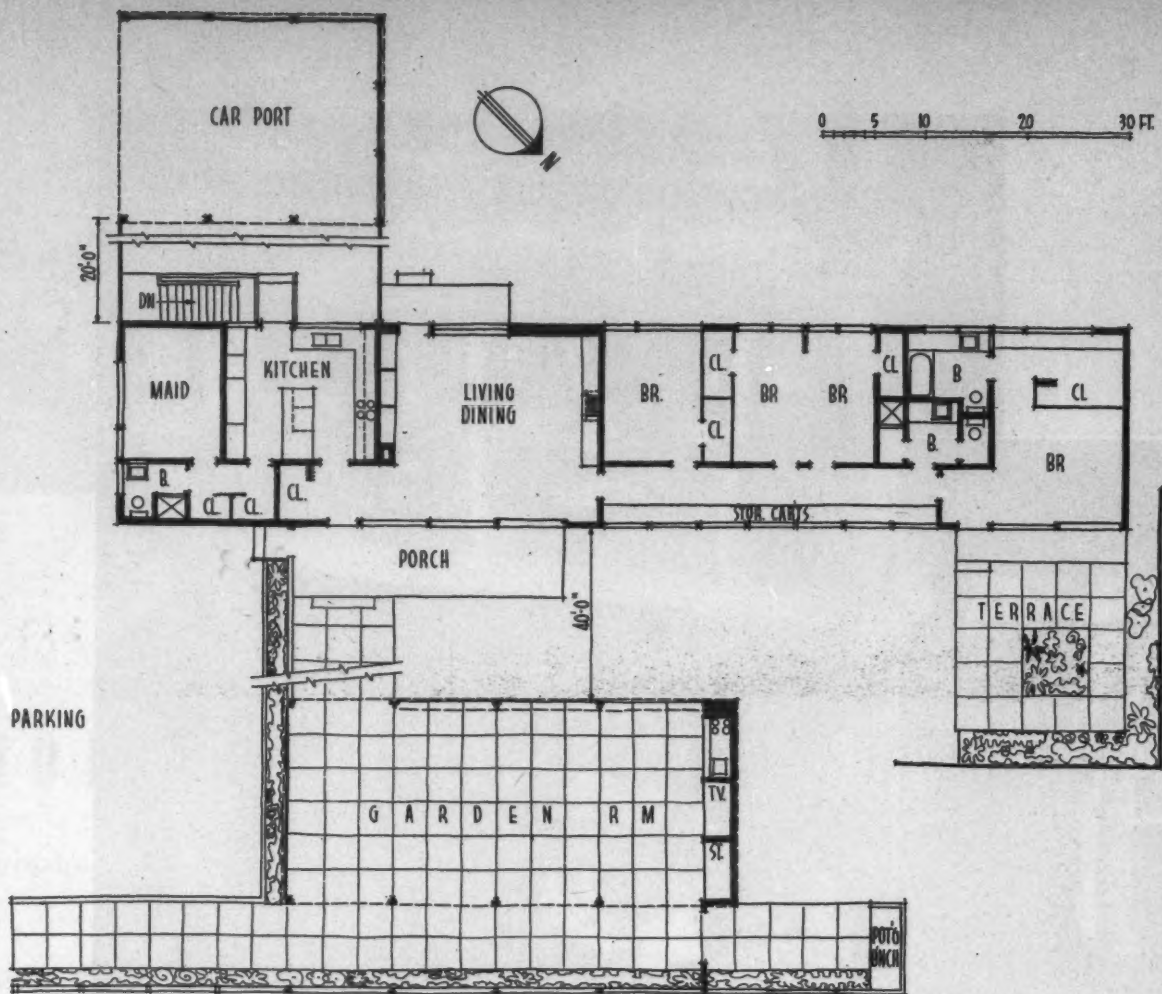
THIS UP-TO-THE-MINUTE HOUSE, the first of an originally proposed series of "Holiday Houses" sponsored by *Holiday Magazine*, was designed to explore methods of increasing and organizing interior and exterior space, together with inclusion of numerous types of equipment, to produce an atmosphere conducive to full enjoyment of today's increased leisure time, and to lighten housekeeping chores. It is also a vacation house, with the attention to recreation facilities which this implies.

In his solution, since it was a demonstration house, Nelson has concentrated his expenditure for mechanical equipment, and realized extra recreation space through

skillful use of outdoor areas. The house is frankly large and luxurious, and has a high level of craftsmanship, together with a marked simplicity of design and construction. However, of the total living space of 100 by 100 ft, only a small portion is actually enclosed, considerably reducing relative costs. A compound of secluded living areas was created by use of screening fences to link house with garden room and a carport.

For planning purposes, a hypothetical family of adequate means, with two children, was used as a client. Nelson feels that the task would have been easier with an actual client to limit and personalize the design, and to give more definition to the problem.

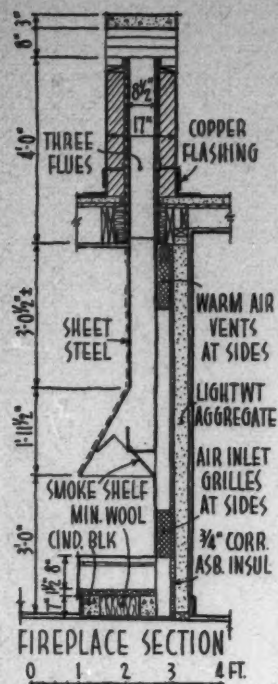
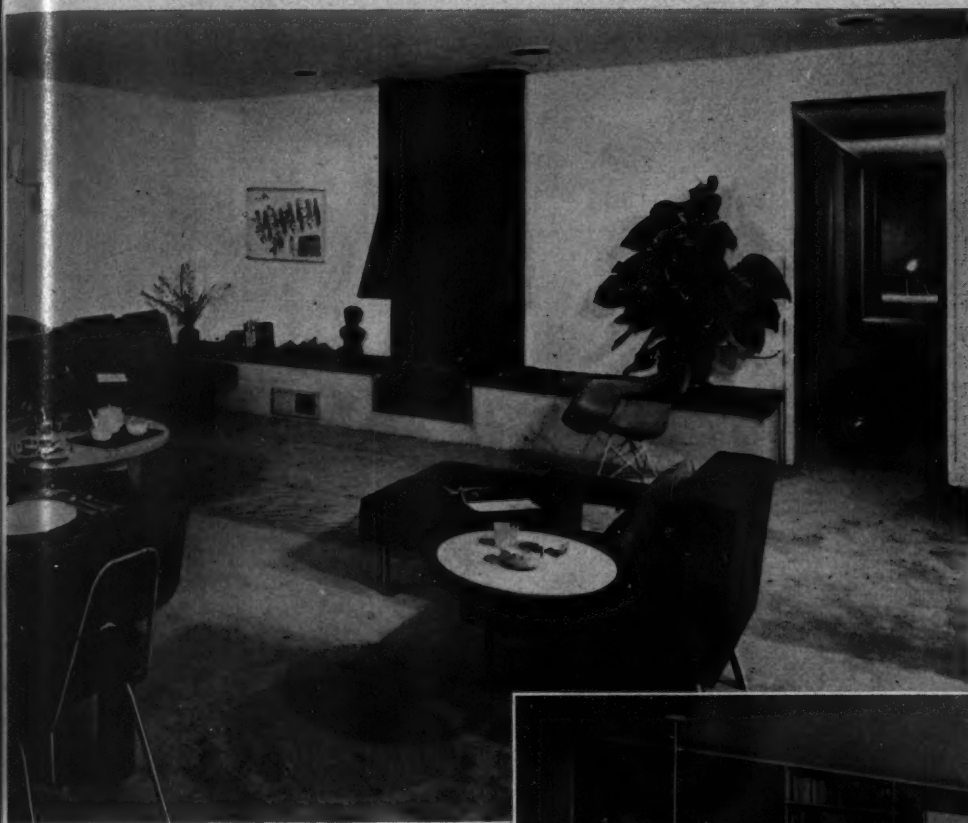
(Text continued on page 166)



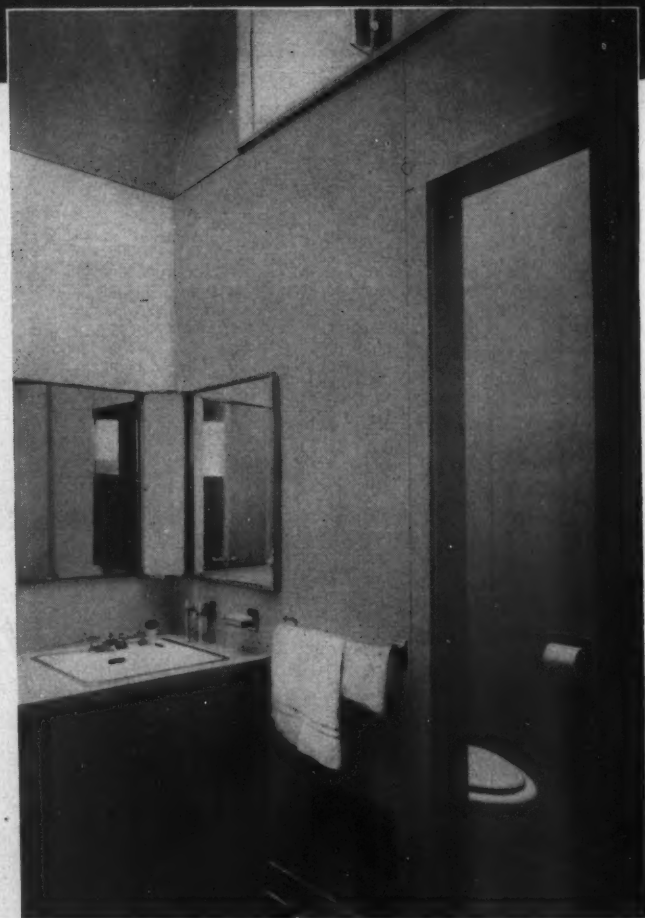
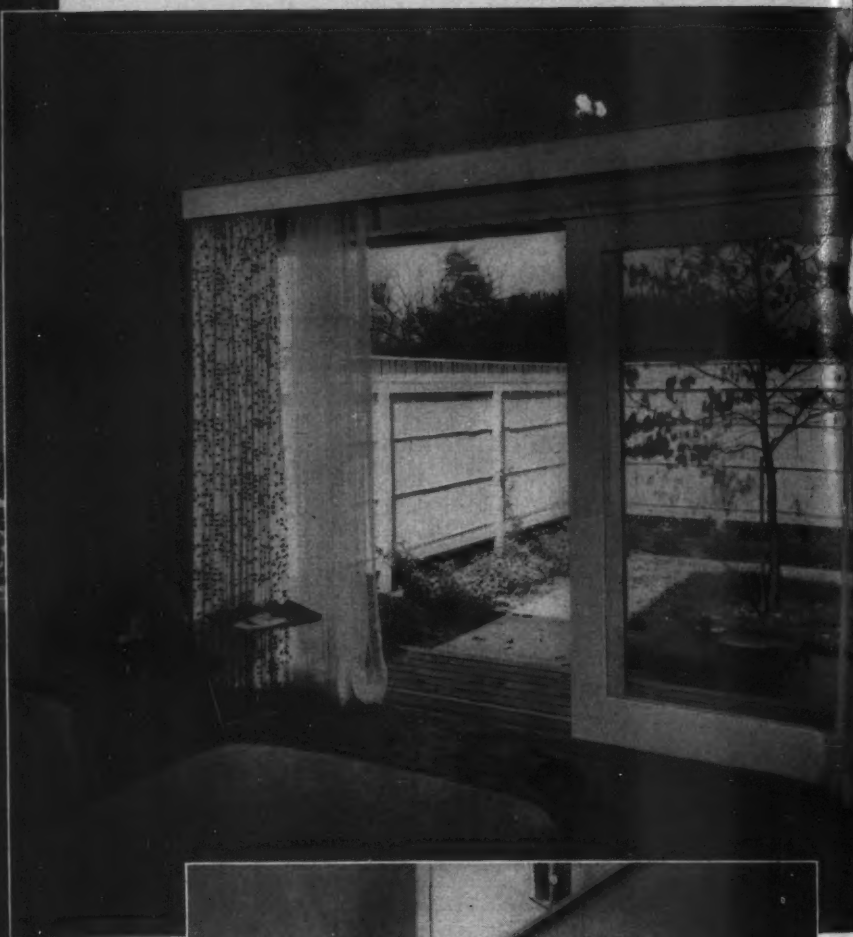
Ezra Stollen: Pictor



HOLIDAY HOUSE



Focal point of the house plan (upper left) is the living-dining area. It is flanked by the two main garden areas and the bedroom and service wings. Sitting area (above center) is dominated by black sheet-iron chimney (detail above). Slate-top bench which extends the hearth is most useful for entertaining, as is built-in storage in dining area (above). All lights are dimmer controlled. The room is easily closed in or opened to outside. Motor-operated window toward carport (above) opens onto small private terrace for dining; it sinks into foundation cavity, pulling screen into place. Draperies are also motor-operated. Opposite wall has adjustable cloth blinds (left). Garden room has built-in kitchenette, television, lights which slide in ducts between beams. The conventional dry wall construction is shown in typical wall section, far left



Equipment was carefully selected in full co-operation with manufacturers, who, considering the attendant publicity, in every case provided the best of their products. This has greatly increased the house's value and the level of performance. It has, of course, also increased its monetary value. On the other hand, the manufacturers' desire to provide the best of equipment led to a number of changes and other difficulties which greatly increased the architect's costs. While it might have been simpler and less expensive to have procured items through regular channels, this procedure would not have made it possible to experiment with the types and quality of materials that were made available.

The wood frame structure is conventional and straightforward in design. Foundations are concrete block. Siding is cedar, stained. The basic interior finish is wallboard; in the living room, this is covered with white-painted sized burlap. Floors are hardwood, with linoleum or tile in kitchen and baths, asphalt tile in workshop. The heating system employs an oil-fired air conditioner. Special equipment includes an intercom system to all areas, dimmers for many of the lights.

The ser-
ters on
equipped
Walls
and mah
metal co
blue. A
snack a
is fitted
refrigera
ment in
range,
drier, in
built-in
service
cludes
and ba
and uti



A wealth of storage cabinets lines bedroom corridor (far left). Hung ceiling of white aluminum louvers shields fluorescent lamps mounted above it. Master bedroom (center) has motor operated curtains, sun terrace. Children's room (above) may be divided by folding partition. Interior three-compartment bath (below center) has skylight, mechanical ventilation, plastic wall finishes

Ezra Stoller: Pictor

The service wing centers on a colorful, well-equipped kitchen (right). Walls are gray plastic and mahogany paneling; metal cabinets are dusty blue. A maple-surfaced snack and work counter is fitted with drawer-type refrigerator. Other equipment includes electric range, freezer, laundry, drier, intercom system and built-in typewriter. The service wing also includes a maid's room, and basement workshop and utility room





LIVABILITY ON A SMALL, HILLY LOT

RESIDENCE FOR MR. AND MRS. ROBERT P. LILIENTHAL, SAN FRANCISCO

Worley K. Wong, Architect, and John Carden Campbell

Eckbo, Royston & Williams, Landscape Architects

THE PLEASANTNESS of these photographs might well disguise the fact that the designers have achieved something extraordinary in developing the utility of space. This is a large house, with double garage and garden, all on a difficult hillside lot measuring but 52 by 80 ft. In this respect the handling of the front of the lot is especially good — the garage is set as far forward as the grade will allow, and the enclosed service yard frees garden space for maximum use, yet the landscaped en-

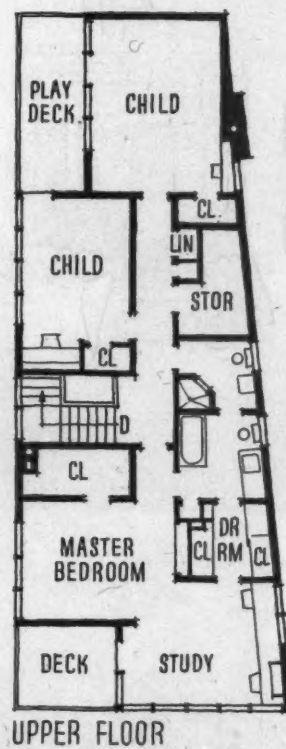
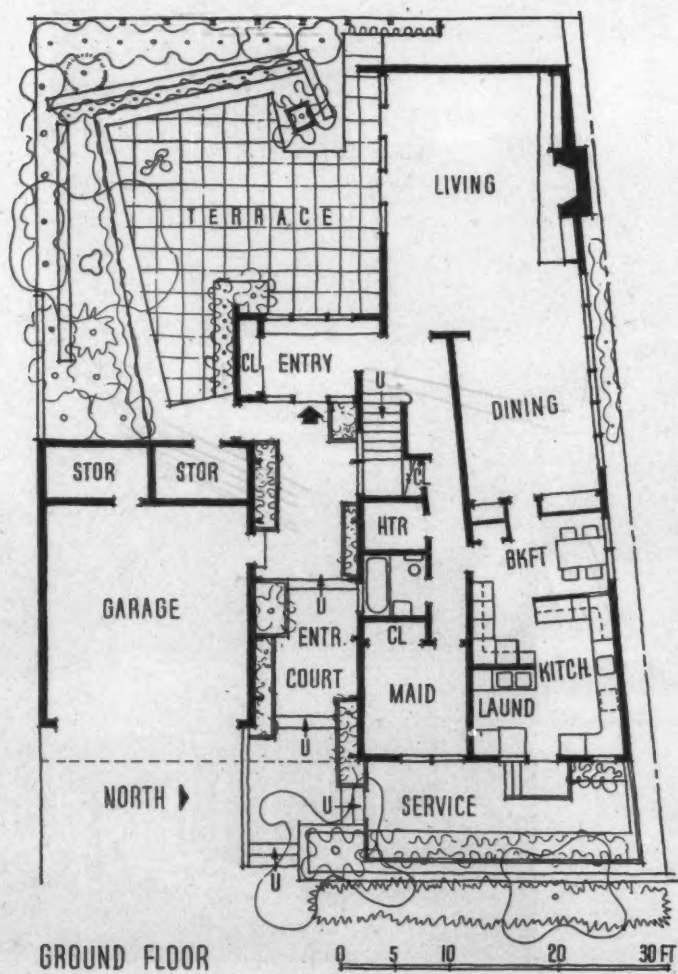
trance court gives the whole a note of gracious welcome. The little entry wing makes the garden join in the visitor's welcome, but also maintains the privacy of the garden. The long narrow plan of the house gives a nice separation of various activities, and comes to a focus at the outdoor living space. Notice, too, that in spite of the confinement of the site the rooms are generously proportioned, and closet and storage space is also on the generous side.



Roger Sturtevant Photos

In both the entrance court and the garden, shelves for potted flowers and planting beds provide a great quantity of floral beauty without much sacrifice of space.

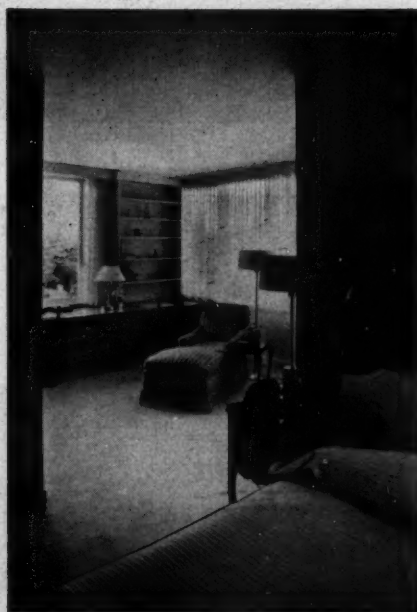






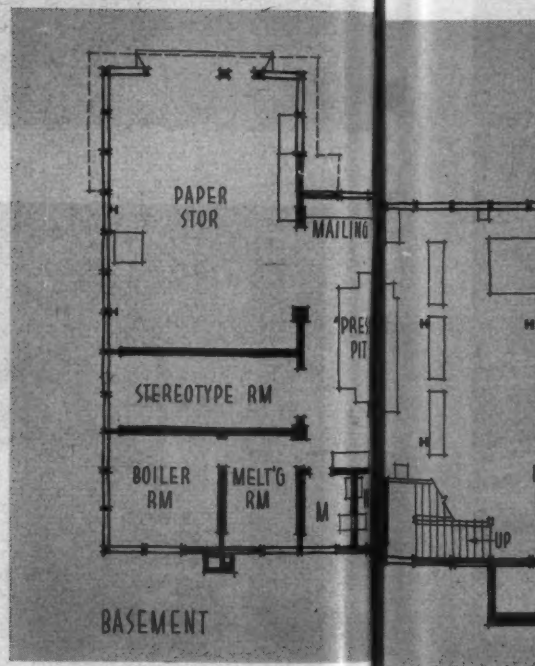
Roger Sturtevant Photos

Living room at rear of house is far removed from kitchen or street activities, opens to enclosed outdoor living space. In combination with dining space and garden, it manages a feeling of extensiveness seldom realized on a narrow city lot. Campbell & Wong did the interiors, using most of the owner's existing furniture. Covers and color schemes were changed in some cases, but only two new pieces added





Joseph Molitor Photos



CALEDONIAN RECORD PUBLISHING CO., INC.

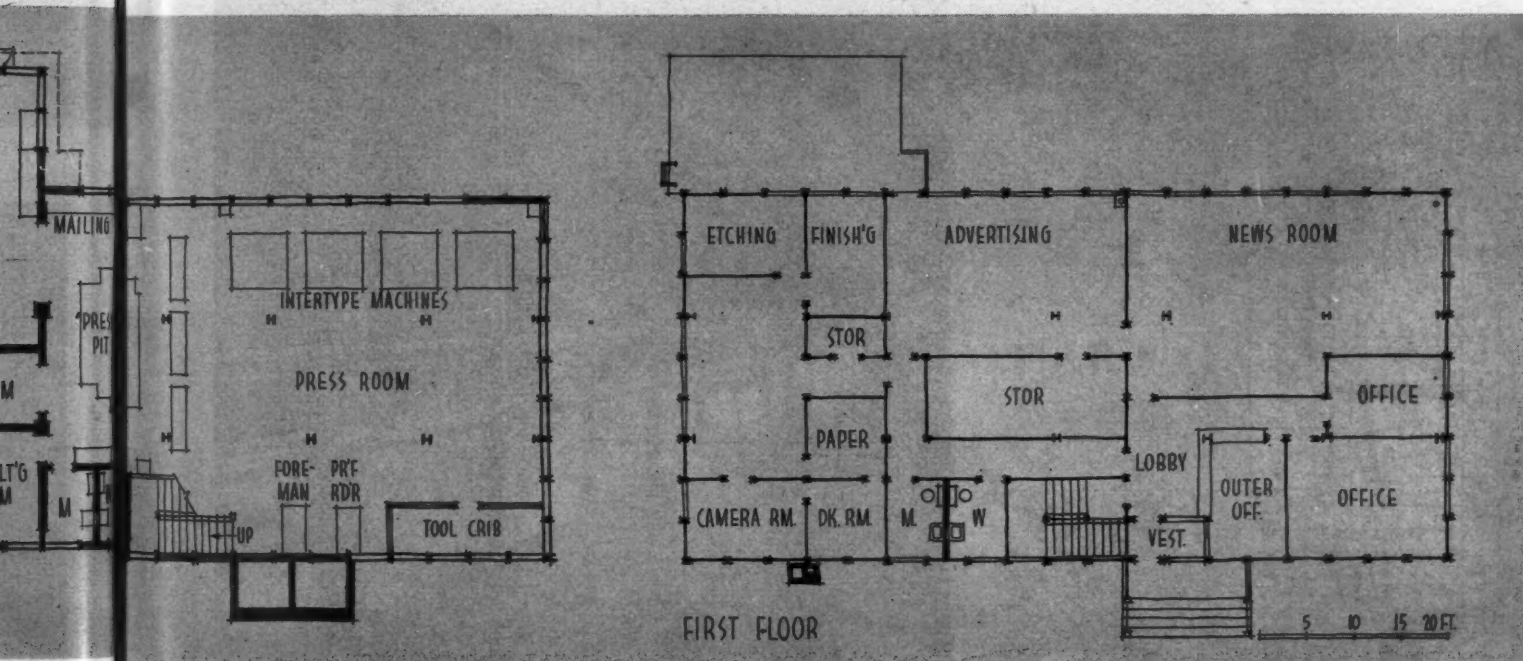
ST. JOHNSBURY, VERMONT

Whittier & Goodrich

Architects

IN THE DESIGN of this small newspaper plant and of the Vermont Electric Co-operative building (page 175), the architects were frankly experimenting with the use of modular coordination and inexpensive materials and detailing to hold down construction costs. The two buildings, erected almost concurrently, are therefore very much alike both in simplicity of plan and in exterior appearance.

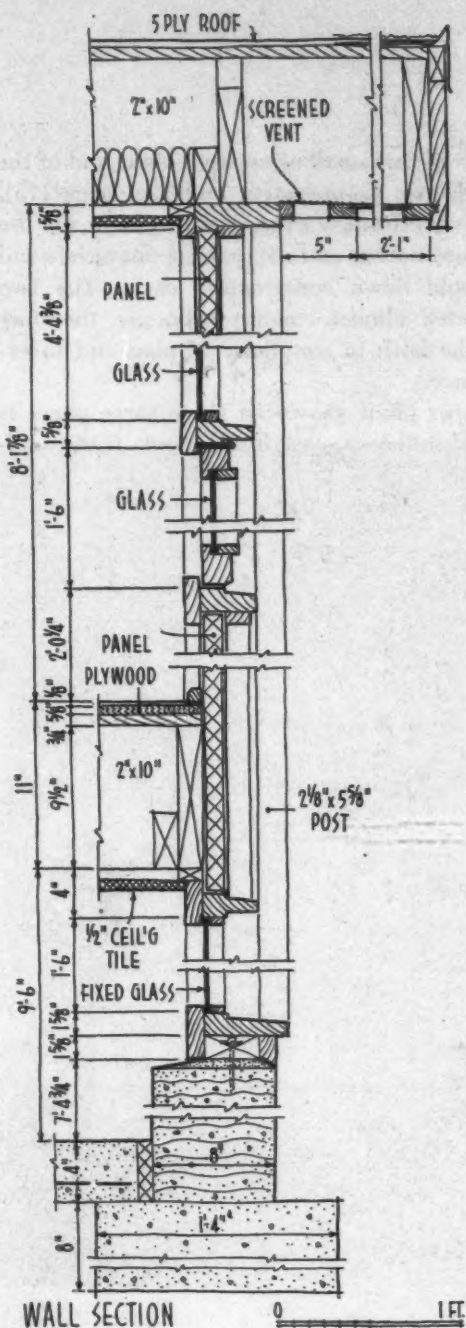
The newspaper plant shown on these three pages is completely self-sufficient, providing every facility re-



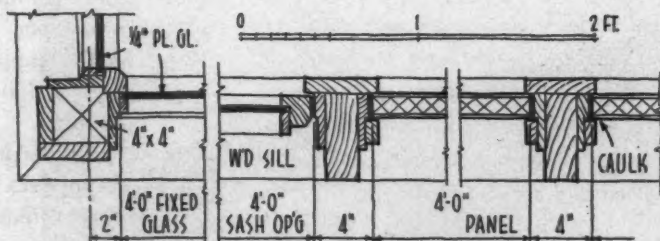
Opposite page: a sloping site was used to give building a seemingly one-story front (top) and two-story rear (bottom). The press room (center) is on lower level, handy to mailing room and paper storage, well lighted and well organized

quired not only for the printing and mailing of the paper itself, but for income-augmenting job printing as well. Within the economical rectangle of its exterior walls is ample room for the many departments required by a newspaper. Yet the building has no pretense about it; it blends happily with the surrounding Vermont countryside; and it gives unmistakable evidence of economic planning.

Foundations are concrete block, framing is steel with wood joists. Exterior walls and all interior partitions are cement fiber panels in modular sizes, which were used in conjunction with 4-by-4 verticals to achieve virtually complete modular construction. Floors are asphalt tile, ceilings are acoustic tile.



Careful attention to detail is evident in wall and window sections above and right. Use of modular wall panels, standard posts and windows cut down on construction costs without in any way detracting from efficiency and comfort of the building



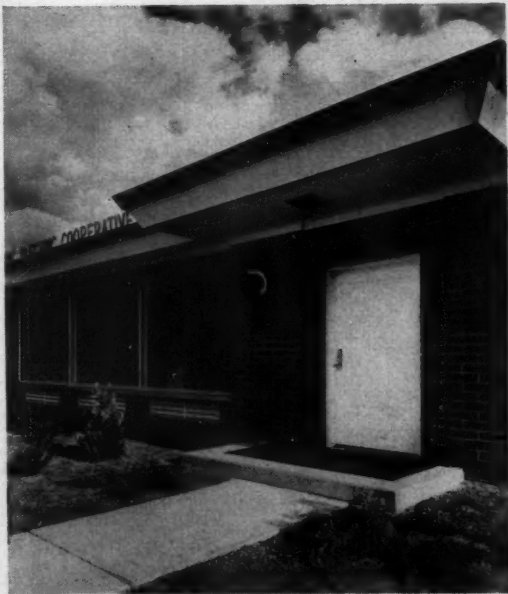


VERMONT ELECTRIC CO-OPERATIVE, INC.

JOHNSON, VERMONT

Whittier & Goodrich

Architects

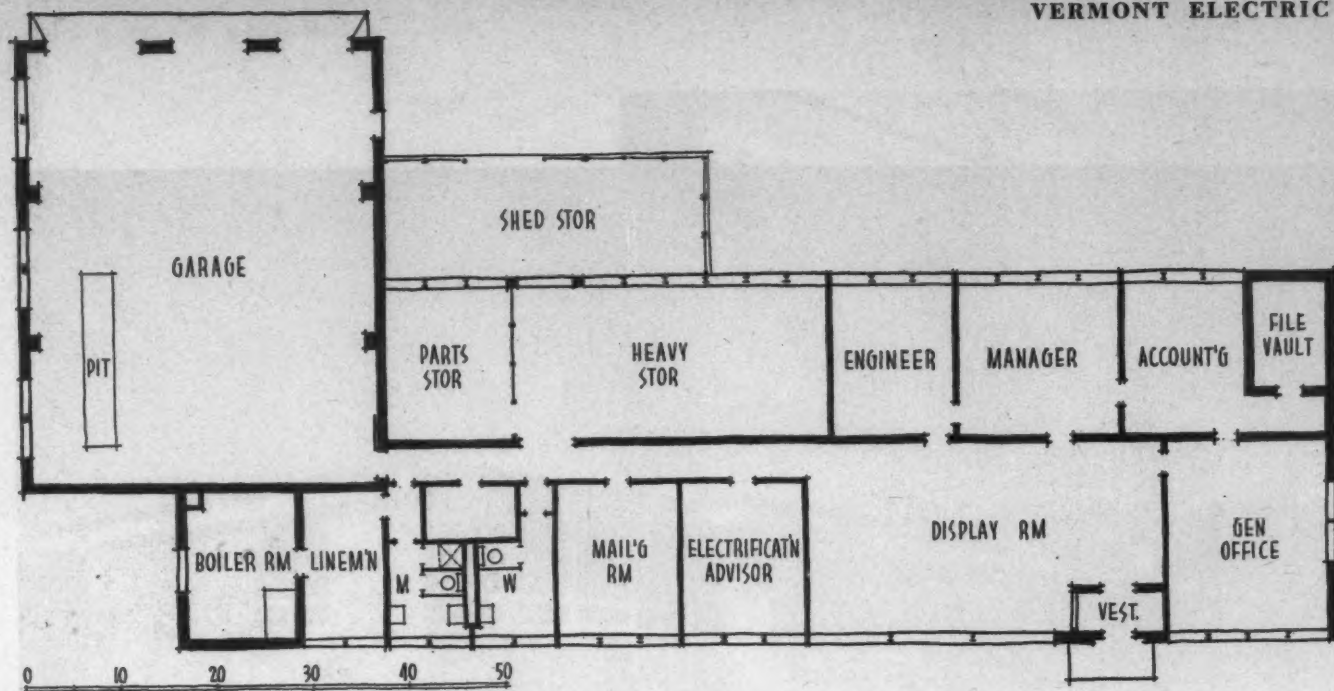


Joseph Molitor Photos

Display room is clearly visible
from walk leading to entrance

THE Vermont Electric Co-operative building stresses modular construction almost as strongly as does the Caledonian Record plant shown on the preceding three pages. Foundations again are concrete block, but exterior walls are of patented hollow-core semi-modular cement brick. Interior plans again revolve around the 4-in. module established by selection of materials for exterior walls and framing.

Although the two buildings are alike in plan and elevation, each reflects its own particular purpose. The Caledonian Record plant is thoroughly businesslike, intended to attract a strictly business clientele; the Vermont Electric Co-operative building is planned to appeal to the consumer, and features a large display room opened to the street with plate glass display windows.

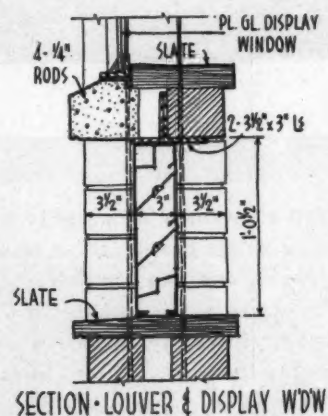
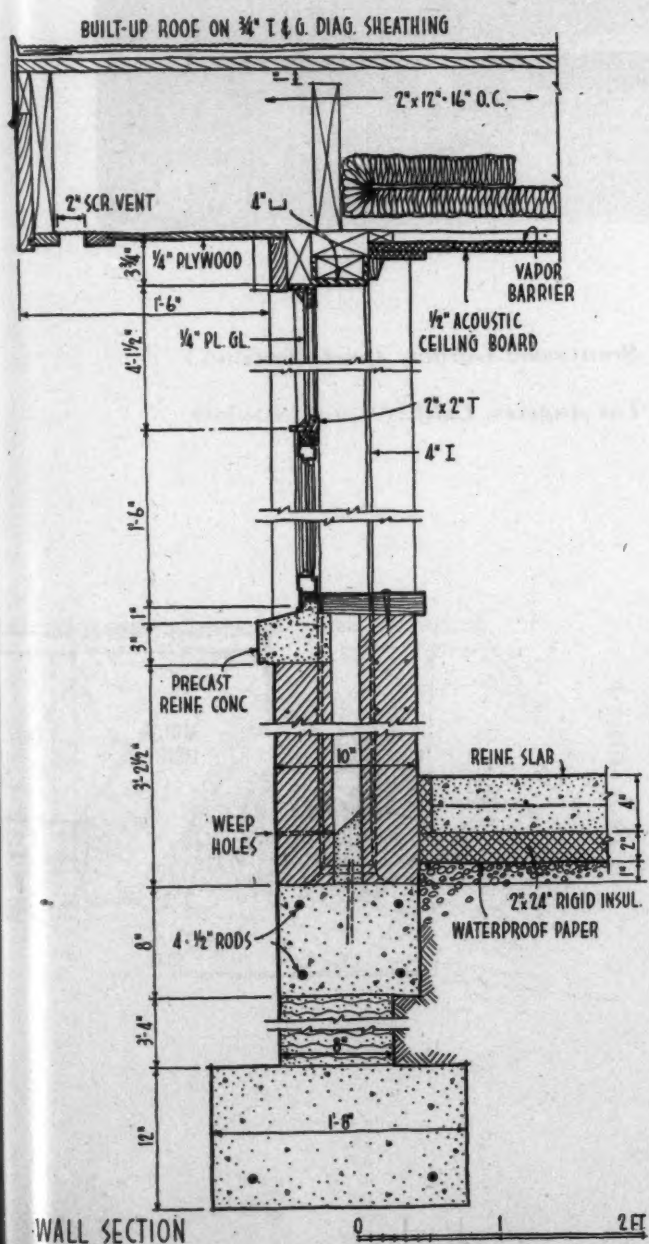


Building is so planned that each of its functions is segregated. Linemen's quarters are handy to both garage and storage rooms. Offices are at opposite end of building, opening to display room which serves also as a lobby. Floors throughout are asphalt tile, ceilings are acoustical tile. Both incandescent and fluorescent lighting are used; fixtures are mostly recessed





Above: manager's office; door at extreme right leads to display room, center door to accounting department. Ventilation in display room is provided by stock louvers beneath the plate glass windows (detail below)



Joseph Molitor Photos

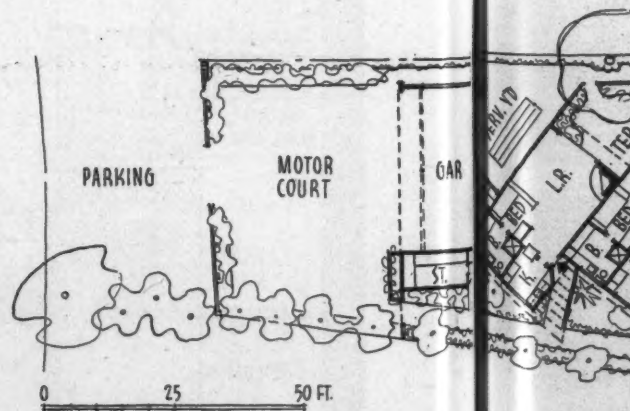




Brentwood Garden Apartments
Los Angeles, Calif.

DESIGNED PRIMARILY to simplify housekeeping problems for single people, these small apartments also offer a degree of comfort and privacy not often found in more stereotyped conceptions of "efficiency" units. The solution closely resembles a series of tiny row-houses, each with provision for outdoor living and individual front and rear entrances. To assure a garden-like quality, a generous budget was allowed for good plant material to carry out the landscape design of Evans and Reeves.

To the northeast, the irregular shaped lot is backed by a wooded canyon adjoining a government-owned Veterans' Hospital, and affords an open view of rolling hills. To take full advantage of this, and to give greater privacy, a staggered plan was developed with all living areas facing the view. Baths and kitchens on the south are shielded from an adjacent undeveloped lot, by plants and acacia trees flanking the entrance walk. A redwood grill is used to set off the entry to each unit, and to screen it from the neighboring apartments. Jointly-used service facilities and a special parking area for guests' cars are grouped at the front of the lot to form a buffer between living quarters and street traffic noises. Three of the apartments were planned for single occupancy. The fourth is a double unit with separate bedroom and study alcove.



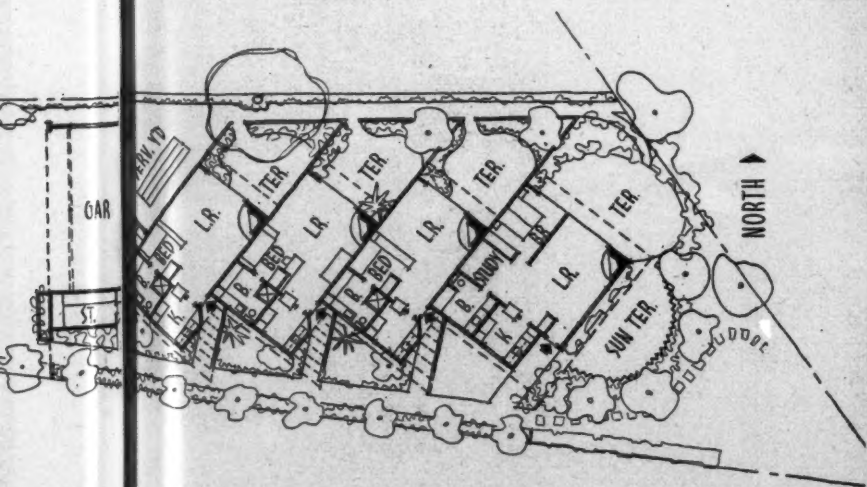
APARTMENTS DESIGNED FOR SINGLE PEOPLE



Robert C. Cleveland Photos

Chalfant Head

Architect and Owner



BRENTWOOD GARDEN APARTMENTS



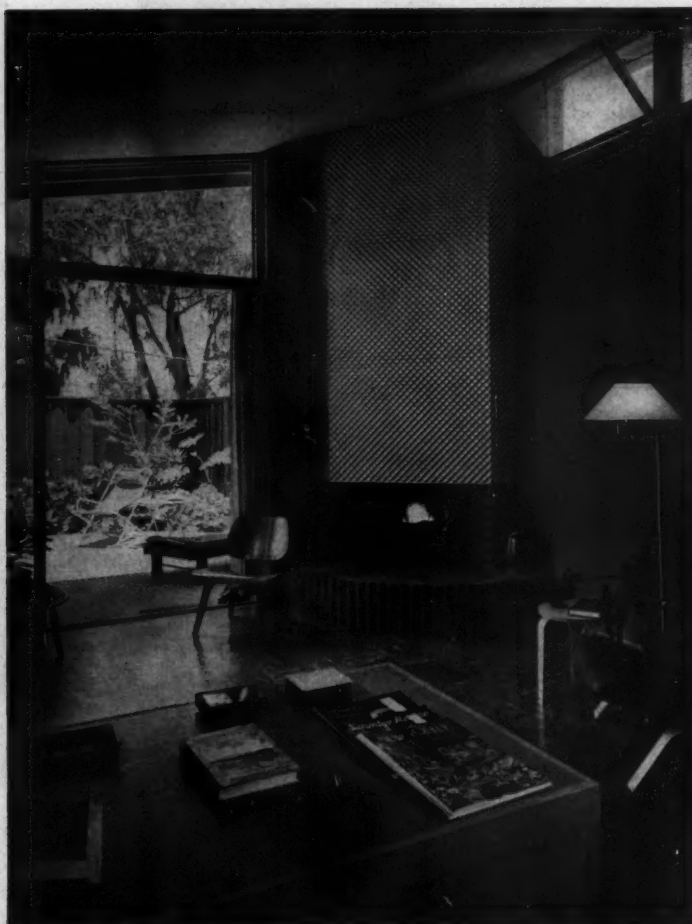
Robert C. Cleveland Photos

The repetitive patterns of setbacks and sloping roofs serve as both functional and design elements (above). Insulated blank wall at lower side of each unit shuts out intense summer heat on west exposure, gives greater sense of seclusion to garden. Shed roof permits clerestory to southeast for light and ventilation





Each of the compact single apartments offers complete facilities for comfortable living, has built-in storage to minimize furniture requirements. Left: glazed wall opens all-purpose room to patio. Above: free-standing wardrobe separates sleeping and serving areas



BRENTWOOD GARDEN APARTMENTS

Color and texture play an important part in the design of the frame structure. The rough redwood siding is trimmed in yellow for a warm contrast, and possible severity of the street facade was overcome by painting the interior of the open carport blue green. The entrance paths, and the main terrace of the double unit (right), are brick set in sand; the side terrace is gravel with staggered redwood edge. The patios of the single units are paved with red colored concrete to harmonize with alternating concave and convex panels of redwood fences.



Double apartment includes same facilities as single units, plus bedroom and sleeping alcove (right). Alcove can be provided with folding door if desired. Kitchen, seen through swinging door and pass window (above), is fitted, as are the other apartments, with prefabricated unit, has additional storage cabinet. Plastic-top dining counter in pass window doubles as bar for entertaining. All apartments are soundproofed with rockwool woven between studding. Heating is by floor slab radiant hot water system, with gas-fired boiler.



Robert C. Cleveland Photos





Ceilings of all units are pale yellow for reflective light, floors are gray asphalt tile to minimize upkeep. Fireplace hood is stamped aluminum





Four of the building code commissioners (left to right): Ralph A. Lehr; William Lescaze; George Bain Cummings, vice-chairman; Walker S. Lee. Absent is Edward J. McGrew, Jr., chairman, now on military leave

N. Y. STATE BUILDING CODE COMMISSION:

By William Lescaze, Commissioner

ABOUT TWO YEARS AGO the State of New York took a bold step—it decided to go seriously, in a business-like manner, into the business of writing a statewide building code. I am going to tell its development here in as non-technical terms as possible.

Building codes originate with the duty and power of the government to protect people in matters of safety, health and welfare. Thus, police power is implicit in building codes.

Things don't happen just because you or I want them to happen. I wanted modern architecture to happen many years before it did. Things are more likely to happen, however, when at least two favorable conditions exist simultaneously: the idea must be good, the climate must be right. That combination existed in April 1949, when Governor Dewey approved Article 15—the State Building Code Law—which had been passed by the Legislature.

The Idea Was Good

No one can argue against the idea. For years architects, engineers, builders, building officials and laymen had sensed the folly of having, say, one set of rules for building in New Rochelle; another set for building in Yonkers, seven miles away; another for building in Port Chester, nine miles away; and still others for building in Rochester.

Here is a great state, justly proud of its vast achievements, but still saddled with over 300 building codes! Here is

that state plus all the other states making up a great nation seeking high living standards for its people, but still saddled with 2200 building codes! It doesn't make sense. It certainly means waste, duplication of effort, inefficiency and needlessly high building costs.

A great many people began to write a great many articles about building codes. Several states began talking about preparing a building code. None, however, to my knowledge has thus far so well established first the necessary mechanism—organization, budget, fundamental philosophy—which the State of New York did.

The Climate Was Right

The State of New York, through its Division of Housing, conducted in June 1948 an Institute of Housing and Planning Studies. Two hundred experts participated—architects, engineers, builders, labor officials, planners, economists, bankers, public officials. Major subjects discussed were high costs of home-building, how more efficient production and distribution methods could reduce these costs; and revision of antiquated building codes. Throughout ran the theme, "The building industry as a whole has ignored the findings of science."

It was announced that the state would hold an architectural competition, and that it would show what present building codes did to the cost of a house as well as what revised building codes might do.

Then followed the creation of the Governor's Committee on Housing and Construction, and meetings in New York and in Albany with the Governor. And, every time, one of the items discussed would inevitably turn out to be the need for a statewide building code.

On March 26, 1946, a Joint Legislative Committee on Statewide Building Codes was created by the state legislature. It was continued in 1947 and 1948, and charged with reporting to the legislature the results of its study and investigation not later than March 31, 1949.

Committee Report

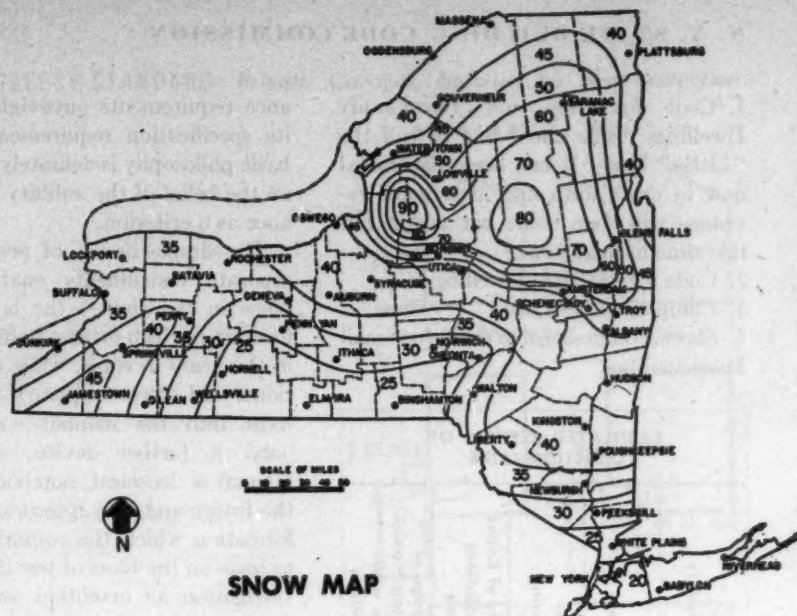
The committee reported as follows on February 28, 1949:

"The Committee is firmly convinced that reform of outmoded and unreasonably restrictive building codes cannot be handled by the municipalities. The writing of a scientific building code is no simple task; it demands the services of a multitude of experts and its cost is beyond the reach of most municipalities . . .

"The Committee therefore proposes to establish a State building construction code . . .

"The Committee is convinced that since a building code should constantly be revised as technological advances in the science of building are made, it should not be promulgated by legislative action. A code enacted by the Legislature requires legis-

Snow map from the "Structural Requirements" section of the proposed code for one- and two-family dwellings. Zones, on map, when used in conjunction with table in the code, give snow loads for various roof slopes. Numbers on the map are weights of snow in lb per sq ft



SNOW MAP

Aims and Accomplishments

lative action to amend it. This process is frequently too slow and is the chief cause of inflexibility. The Committee therefore proposes to establish in the Executive Department a five-man commission with power to formulate the rules and regulations which will constitute the State building construction code and by amendment to keep them always up to date . . ."

Features of the Code Law

Inherent in the committee's proposal and in the text of the State Building Code Law as approved by Governor Dewey are several noteworthy features:

- Statewide uniformity of codes is bound to lower construction costs since such uniformity will assure an approved building material of a statewide market.
- A modern code must be expressed in terms of performance objectives, i.e. adequate performance for the intended use should be recognized as the test of acceptability. This is bound to result in two important improvements over existing codes: (1) modern technical methods will be accepted as soon as they are proved to give adequate performance; and (2) the code will remain flexible. It cannot freeze obsolete methods and materials, as existing codes do.
- A code today can no longer be written by one man alone. If it is to be good, a code must be prepared by a team after consultation with many experts.
- Preparation of a code is an arduous, time-consuming and costly job. If it is to be the kind of impartial and scientific

job which it ought to be, it cannot be done — as some states still seem to think — on a volunteer, quick and inexpensive basis. The State of New York had the wisdom to appropriate \$300,000 for the work of the code commission.

e. The commission is established as a going concern. As a branch of the executive department of the state, it is set up to render a continuing service to all the municipalities of the state who desire that service.

First Work of the Commission

The State Building Code Commission consists of five members to be appointed by the governor, by and with the advice and consent of the senate. At least one of the members must be a registered architect and one a professional engineer.

On October 18, 1949, the governor appointed two architects, one engineer, one lawyer and one building official. This in itself is remarkable since it emphasizes the technical composition of the commission, the technical purpose of its work. Briefly, in addition to the five commissioners, our organization consists of an executive assistant, a public relations officer, a counsel, the all-important technical section headed by a technical director, and the administrative section.

We brought together a board of consultants.* We formed a panel of specialists.* As soon as one of our first drafts was ready we conferred, in addi-

tion to our board of consultants and our panel of specialists, with several building officials, building industry employers, building labor unions and with representatives of trade associations.

Other things took place, however, some before and some after we met with consultants, specialists or advisory groups.

Just as it is in architecture, before you start sketching, you have to do a great deal of reconnoitering, of gathering facts, of asking questions. We held eight public conferences throughout the state. We held meetings with professional groups, especially those established on a state basis, such as the New York State Association of Architects, the New York State Society of Professional Engineers and similar organizations. We asked them to form code committees from their memberships to review our work with us.

We also sent a questionnaire to the 1567 municipalities of the state. We got an 85 per cent response. We found that 399 municipalities, or 21.6 per cent of the total in our state, have building codes or regulations.

Four Codes Needed, Not One

As we became more and more familiar with our problems, analyzed and organized them, it became clear that we should tackle things in the following order:

* See lists at end of article for membership.

N. Y. STATE BUILDING CODE COMMISSION

1. Code for One- and Two-Family Dwellings. (The one I like to call the "Little" Code. It has been distributed now in draft form and after some revisions will soon come out again, but this time in final form.)
2. Code for Multiple Dwellings.
3. Comprehensive Code.
4. Short Comprehensive Code for Small Municipalities.

TABULATED RESULTS OF QUESTIONNAIRE				
Class of Municipality	Total Number	Number Answering	Number of Codes or Regulations Reported	Percentage of Reporting Municipalities with Regulations
Cities	62	62	56	90.3
Towns	950	752	63	8.3
Villages	555	513	220	42.9
Totals	1567	1327	339	24.8

The "Little Code"

At an early stage of our deliberations, working and re-working of the table of contents of the "little" code, we created the concept of two separate documents, the code proper which is the law, and the code manual which is a guide, but not the law.

The legislative mandate which we had been given was unmistakably to prepare a performance-type code. We all agreed that this was the only valid type of code today, allowing the use of modern technical methods, and making available to our citizens the benefits resulting from invention and progress. (Most existing codes are specification-type codes, rigid and frozen in their requirements.)

Performance implies ability to measure. That ability to measure must be based on tests and research. Today, in the vast and complex fields of building materials and methods of construction, tests and research have not been systematized. There has been much testing in some areas, and in others hardly any.

Obviously one of the important tasks of our commission is to scrutinize and organize available test data and to encourage specific research where needed test data are not available.

In the meantime the "little" code is as much a performance code as we were able to make it. Until more test data are available it will have to contain elements of specifications, but its perform-

ance requirements outweigh right now its specification requirements, and its basic philosophy is definitely established on the belief of the validity of performance as a criterion.

The simple device of preparing two separate instruments enabled us to place in the code — the law — all information which is most unlikely to alter in the years to come, while the conventional and more temporary information went into the manual — as a guide only. A further device, making the manual a looseleaf notebook, permits the future and easy insertion of new information which the commission plans to issue on the basis of test data and investigation as invention and progress develop.

Each page of the manual carries the reminder: "Constructions illustrated or described above are acceptable under the State Building Construction Code; but such illustrations or descriptions shall not be interpreted to preclude other constructions which also meet the requirements of the code."

While codes can either benefit or penalize all of us in our daily use of buildings, they should be first of all addressed to those groups of major users: architects, engineers, builders who build in accordance with the codes and the building officials who enforce the codes. Therefore, we arranged the contents of the "little" code in as logical manner as possible, very much as an architect would, while planning a house, go logically from considerations of space to materials, then structural and fire safety, then on to plumbing, heating and light. The "little" code is thus divided into five parts:

1. General Provisions
2. Space Requirements
3. Structural Requirements
4. Fire Safety Requirements
5. Plumbing, Heating, Electrical and other Electrical Requirements

It seems that in every trade and profession at one time or another a jargon becomes the vogue. Most existing building codes are written in a special code jargon. Such as this:

"If the horizontal section through a bearing wall shows more than thirty per cent area of flues and openings, such part of the wall where the excessive openings exist shall be increased 4 in. in thickness over minimum requirements for every 15 per cent or fraction thereof, of flue and opening area in excess of 30 per cent provided that if such wall be laid up in Portland cement mortar the increase in thickness shall

be required only when the areas of flues and openings exceeds 45 per cent; or instead of increasing such wall in thickness adequate piers or buttresses shall be provided."

But there is nothing mystical about writing codes. Wishing to have our "little" code understood as well by the lay person as by the major users, we took pains to write it in simple, plain language. Usage alone will tell if we succeeded.

As I am writing this, news has just reached us that Governor Dewey has signed a bill to which certain amendments to the original state building code law were attached. This is good news. Some of these amendments greatly simplify the procedure for acceptance of our code. Municipalities without their own building regulations can now by means of a single resolution accept our code; furthermore, any municipality after one year of use of the state code can, by resolution of its local administrative body, withdraw from the application of the state code and again later on, if it chooses to do so, restore, itself, the application of our code.

Now for the latest progress report on our "little" code: on February 19, 1951, we distributed 3500 copies of the code and of the code manual. We asked for comments from all the recipients. We have since received a great many comments which our technical staff is analyzing.

We met again with each of the members of our board of consultants and page by page reviewed our code with them. Early in May we started to make such revisions which in our judgment will further improve the code. Then the final copy will be ready and filed with the Secretary of State. And by early summer the code should be printed, public hearings held and the first part of our work done. Below are comments typical of those received which appeared in the *Ogdensburg Journal*, Feb. 22:

"The effort to get a building code adopted in the city of Ogdensburg took a step forward Monday when the New York State Building Code Commission issued its proposed one- and two-family dwelling code.

"This code will be available for local authorities to study. Perhaps the local building code committee might recommend its approval by common council.

"The advantages to communities in accepting the state's building code services are numerous, among these being munici-

pal eco-
services
the pre-
ing law
legal
and am-
prohibi-

Range Activi-

I me-
sion is
ple of
dertaki-
most c-
afford
How e-
except
agency

The
prepari-
code, r-
require-
structu-
standa-
perform-
standa-
tices; a
nate ad-
provide
material
structu-
of revie-
keep the
issuing
lish con-
field, s
Standar-
Finance
Advison
on Unif-

As a
started
State B-
pose of
mation
sion. T
letter
time 45

The
to cons-
of the V
low in
commis-
technic

What Zonin-

Two
us —
ministr-
about z
They a
created

pal economy. The cost of expert technical services and legal procedures involved in the preparation and amendment of building laws, expenses of public hearings and legal advertising and printing of original and amended drafts, make the undertaking prohibitive for most communities."

Range of Commission's Activities

I mentioned earlier that the commission is to be a service agency for the people of the state, that the work it is undertaking is the kind of work which most communities of our state cannot afford to do and yet need to have done. How else could the following be done except at state level and by a state agency?

The commission must provide, while preparing a state building construction code, reasonable uniform standards and requirements for construction and construction materials; formulate such standards and requirements in terms of performance objectives; encourage the standardization of construction practices; adopt tests and approvals, designate accredited testing laboratories, or provide for the testing and approval of materials, devices and methods of construction; organize one or more boards of review with rules and procedures; keep the code manual up to date by issuing new pages of information; establish contact with other agencies in the field, such as the National Bureau of Standards, the Housing and Home Finance Agency, the Building Research Advisory Board, the Joint Committee on Unification of Building Codes, etc.

As a further means of service, we have started and will continue to publish the *State Building Code Newsletter*. The purpose of this newsletter is to give information about the work of the commission. To date three issues of the newsletter have come out, reaching each time 4500 persons.

The other day an architect, anxious to consult immediately a housing code of the West Coast, had hunted high and low in the city when he thought of our commission and found that code in our technical library.

What About Administration, Zoning?

Two questions have often been put to us—"What will you do about administration?"—"What will you do about zoning?" The answers are simple. They are contained in the law which created our commission. Administration

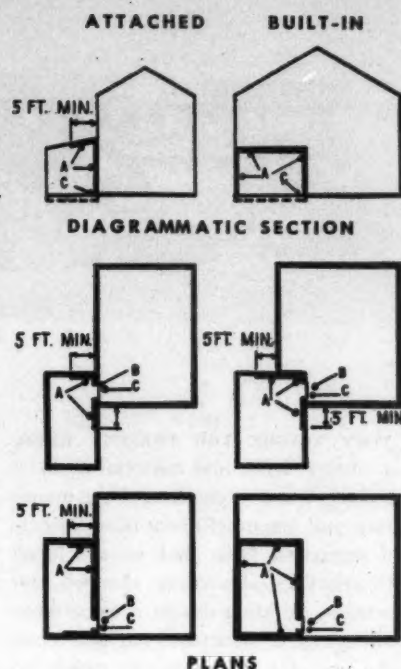
(Continued on page 206)

FIRE SAFETY STANDARD: Private Garages, Isolation by Fire Protection

A—Incombustible facing providing minimum 10-min protection against ignition to combustible parts of structure and minimum 20-min over-all fire resistance

B—Doorway with self-closing door having 20-min fire resistance

C—8-in. step required when communicating space contains a fixed source of ignition



Drawings on this page are taken from two pages in the proposed code manual for one- and two-family dwellings. The manual is designed to assist in the interpretation, application and enforcement of the performance-type code

FIRE SAFETY STANDARD: Fire-Resistance Ratings

FIRE-RESISTANCE RATINGS IN HOURS

Noncombustible framed-in members or no framed-in members		Combustible framed-in members
4" NOMINAL		
CLAY OR SHALE BRICK	1 1/4	
1/2" 1:3 GYP-SUM PLASTER	1 3/4	
	2 1/2	
8" NOMINAL		
CLAY OR SHALE BRICK	5	2
1/2" 1:3 GYP-SUM PLASTER	6	2 1/2
	7	2 1/2
12" NOMINAL		
CLAY OR SHALE BRICK	10	8
1/2" 1:3 GYP-SUM PLASTER	10	9
	12	9
FIRE EXPOSURE ON THIS SIDE	FRAMED-IN MEMBERS ON THIS SIDE	

Notes: The ratings shall also apply to walls of concrete or sand-lime brick. Ratings with combustible members framed into the fire-exposed side, or into both sides of walls are on other pages of the manual

At the bottom of each page of standards appears this statement: "Constructions as illustrated or described above are acceptable under the State Building Construction Code; but such illustrations or descriptions shall not be interpreted to preclude other constructions which also meet the requirements of the code"



STEEL SAVED

IN L

Republic National Life Insurance Co. Building during construction in Dallas, Texas, in which the use of lightweight concrete reduced the quantity of steel required and cut the over-all cost a substantial amount

EVEN BEFORE THE PRESENT EMERGENCY, labor and material costs — especially labor — challenged the imagination and resourcefulness of architects and engineers. Now that we are faced with priorities, allocations, controls and shortages, building design is even more challenging. If structural engineers can make use of a new material which requires the use of smaller quantities of critical materials such as reinforcing steel, they can make a valuable contribution to both the construction industry and to the national economy.

This article shows how lightweight concrete and a comparatively new method of framing cut the quantity of steel required and substantially reduced the cost in the Republic National Life Insurance Co. Building.

Lightweight Concrete Means More Strength Per Pound

The engineer can learn a lesson from the development of the all-metal airplane. Although high-strength steel alloys are far stronger per inch of thickness than aluminum alloys, still the strength-weight ratio was so much in favor of the aluminum alloys that their use was quickly found more efficient.

For example, an X-4130 steel has a yield point of 70,000 psi and weighs 490 lb per cu ft. Its strength-weight ratio is then $\frac{70,000}{490} = 143$. Aluminum (24 ST) has a yield point of 60,000 psi and weighs 173 lb per cu ft. Its strength-weight ratio is 350, or an increase over that particular steel of 144 per cent.

May not lightweight concrete do for the construction industry what aluminum alloys have done for the aircraft industry? A good idea of how it might be apparent from a glance at Table 1. For example, 3000 psi lightweight concrete has a 67 per cent higher strength-weight

ratio than 3000 psi heavy (hard rock) concrete.

Now, let's compare the strength-weight ratio of 4000 psi lightweight concrete with 3000 psi hard rock concrete, which is most commonly specified for structural framing. The answer is $\frac{19}{9} =$ an increase of 110 per cent which is in the same category as the comparison of aluminum with steel.

Cost Savings Demonstrated

The two-story insurance building offers proof of steel and cost savings due to the greater strength-weight ratio of lightweight concrete. The building is 192 by 120 ft with columns on 24-ft centers. The economics of flat-plate design had already been demonstrated in the construction of a three-story nurses' home with bays 17 by 15 ft, so we hoped to use the same method of framing for the office building.

The first design studied used 3000 psi hard rock concrete which would have required a slab 11-in. thick using 4.15 lb of steel per sq ft, supported by 20-in. sq columns. This construction was estimated to cost:

Steel	2391 lb × 10¢	= \$239.10
Concrete	19.6 yd × \$12.50	= 245.00
Forms	576 × 40¢	= 230.00
		<hr/>
		\$714.10

per bay

$$\$714.10 \div 576 \text{ sq ft per bay} =$$

$$\$1.24/\text{sq ft}$$

We then studied the same design for 4000 psi hard rock concrete. The slab would have had to be 9-in. thick, supported by 19-in. sq columns, and 5.96 lb of steel per sq ft would have been required.

An allowance in the forming cost was made in proportion to the decrease in dead load. The cost estimates were:

Steel	2859 lb × 10¢	= \$285.90
Concrete	16 yd × \$13.10	= 209.00
Forming	576 × 35¢	= 202.00
		<hr/>
		\$696.90

$$\$696.90 \div 576 = \$1.21 \text{ per sq ft}$$

Several producers of lightweight expanded shale aggregates are within reasonable distance of Dallas. They indicated a 4000 psi lightweight concrete could be mixed at the site at a competitive cost. The lightweight design called for columns only 16-in. square and an 8-in. slab, using only 3.81 lb of steel per sq ft. The costs proved to be (in actual construction):

Steel	2198 lb × 10¢	= \$219.80
Concrete	14.2 yd × \$14.50	= 206.00
Forming	576 × 28¢	= 161.00
		<hr/>
		\$586.80

$$\$586.80 \div 576 = \$1.02 \text{ per sq ft}$$

In a multi-story building the reduction of structural dead load from 79,000 to 36,200 = 42,800 lb per bay for slabs, and 4600 to 2760 = 1840 lb per column, would have proven significant but in this case no evaluation was made.

Photographs of the building under construction show the cleanliness of the design and the ease of installing ducts and other mechanical services.

The slabs were watched carefully for deflection. Some deflection was observed, but most of it was attributable to settlement of forms during pouring — and to prove it the slabs were load tested.

Increasing Slab Thickness Saves Steel

The designer may decide to increase the thickness of a lightweight slab or the depth of a beam beyond that depth

IN LIGHTWEIGHT BUILDING

By J. A. Murlin

of George L. Dahl, Architects & Engineers

determined from design constants in order to save steel. The additional saving in reinforcing steel usually pays for the extra concrete.

For example, assume a beam 20-in. wide is required to carry a moment of 900,000 ft lb. The effective depth * required is 38-in. and cross-sectional area of steel, 17 sq in. Suppose we decide to increase the effective depth of the beam to 46-in. Then the steel cross-section required is 13.9 sq in. or a saving of 3 sq in. of steel which would amount to 10.8 lb per lineal ft or \$1.08. This procedure can be followed in any type of long span structure.

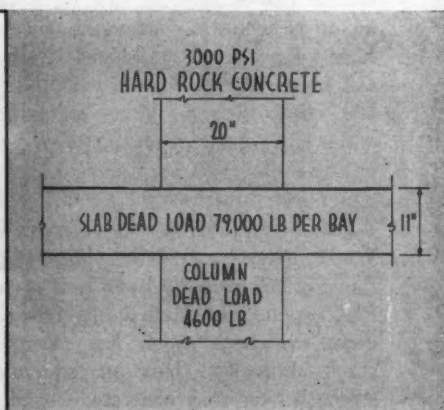
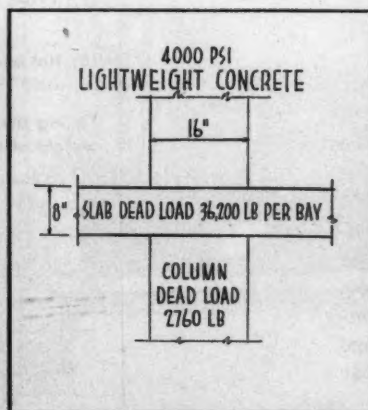
Along this line of thinking, the 24 by 24 ft bay size was calculated increasing the lightweight slab thickness from 8 to 12 in. Figure 1 shows the estimated cost per sq ft and also the weight of steel per sq ft as the lightweight slab thickness is increased from 8 to 12 in. Inserted at the top of the graph are the comparative costs for the 11-in. hard rock and the 9-in. hard rock slabs. You can see that the designer may well decide to increase the slab thickness to decrease the amount of steel even though the total cost increases. The total cost still remains below that for an equivalent hard rock slab.

* Distance from compression face to center of the steel, in inches.

TABLE 1 — Strength-Weight Ratios of Lightweight and Hard Rock Concrete

Concrete	Design Strength (psi)	Weight (lb/cu ft)	Strength-Weight Ratio
A. 2500 psi Hard Rock	1125	150	$\frac{1125}{150} = 7.5$
B. 3000 psi Hard Rock	1350	150	$\frac{1350}{150} = 9.0$
C. 4000 psi Hard Rock	1800	150	$\frac{1800}{150} = 12.0$
D. 2500 psi Lightweight	1125	85	$\frac{1125}{85} = 13.2$
E. 3000 psi Lightweight	1350	90	$\frac{1350}{90} = 15.0$
F. 4000 psi Lightweight	1800	95	$\frac{1800}{95} = 19.0$
Comparison of Strength-Weight Ratios			
D = 13.2	E = 15.0	F = 19.0	
A = 7.5	B = 9.0	C = 12.0	
			176% 167% 158%

Above: the table shows how strength-weight ratios of concrete increase as you go from hard-rock types through lightweight types. Below: lightweight concrete employed in the flat-slab construction of the insurance building shown on the opposite page results in a structure with clean lines in which air conditioning ducts and other mechanical services fit easily. The drawings point out the savings in dead load and in space required for the concrete frame, when lightweight concrete was used instead of heavy rock concrete



STEEL SAVED IN LIGHTWEIGHT BUILDING

To complete the cost comparison picture, additional estimates were made for the same building with: (a) 3000 psi hard rock flat-slab construction (9-in. drop panel, 8 by 8 ft. with 6½-in. slab); (b) 3000 psi hard rock concrete, 72 by 18 in. wide flat beam with 6-in. one-way slab. In Table 2 are cost comparison figures in the order of their total costs.

Mixing and Field Control

While some authorities suggest the use of an air entraining admixture to prevent bleeding and to aid in workability, it has been expedient in this area to use a fine "blow sand." The proportion of sand, or air entraining agent — or combination of both — should be determined by laboratory analysis of both the sand and the lightweight aggregate as furnished to the job site.

We have found that the best guide for water content or for workability in the lightweight concrete is to keep the water as low as possible — if the concrete will come out of the mixer it will flow in the forms perfectly. The internal lubrication provided by the blow sand permits the wet concrete to be poured into any form. When a vibrator is applied the mass flows smoothly into place. And a monolithically finished slab is as easily trowelled as hard rock concrete. Shrinkage cracks were almost never observed from 1½-in. thick topping to an 8-in. thick slab. Curing was accomplished by keeping slabs wet for three days.

Figure 2 shows results of strength tests on lightweight concrete as poured. The two curves extending to 56 days are for the office building described in this article. The shorter curve extending to 28 days is for another building still under construction. It is inserted to illustrate the effect of more careful batching and water control.

It is significant that this lightweight concrete seems to continue to pick up strength at a constant rate to at least 56 days, while the strength curve for hard rock concrete (not shown) flattens out much earlier. This is explained by the comparatively large amount of water entrapped within the pores of the crushed lightweight aggregate. This water seems to slow up the curing, but does not prevent the concrete from eventually attaining its design strength. Slowing down of the hydration process may explain why some lightweight concrete evidences much less shrinkage crack difficulty than an equivalent strength hard rock concrete.

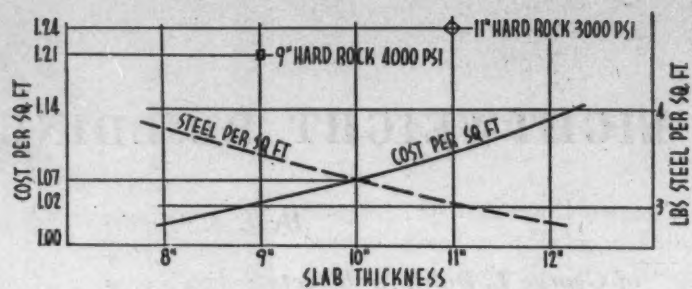


Fig. 1. Costs and reinforcing steel required for various thicknesses of lightweight concrete slabs based on the engineer's calculations

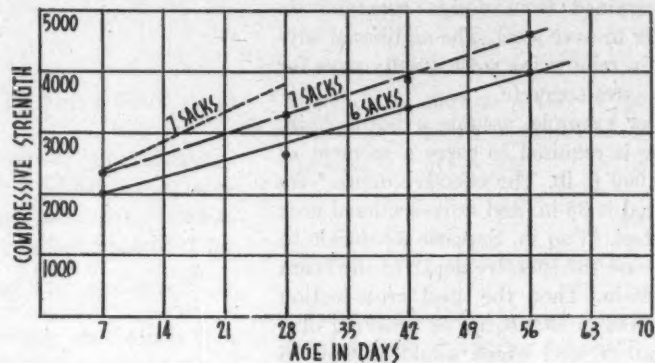


Fig. 2. Results of strength tests on concrete (expanded shale aggregate) for two buildings. Long lines are for building discussed here. Short line is for another one where there was better mixing

TABLE 2 — Costs and Steel Required for Various Types of Concrete Construction

Slab Type	Concrete	Cost per sq ft	Steel—lb per sq ft
(1) 8-in. flat-plate	4000 psi lightweight	\$1.02	3.81
(2) 10-in. flat-plate	3000 psi lightweight	1.07	3.28
(3) drop panel	3000 psi hard rock	1.07	4.00
(4) 10-in. flat-plate	4000 psi lightweight	1.08	3.28
(5) 12-in. flat-plate	3000 psi lightweight	1.14	2.85
(6) 9-in. flat-plate	4000 psi hard rock	1.21	4.96
(7) 11-in. flat-plate	3000 psi hard rock	1.24	4.15
(8) flat beam and slab	3000 psi hard rock	1.35	4.17

Taking the 8-in. lightweight flat-plate (1) as 100% in both cost and weight of steel, the systems compare as follows:

	Cost—%	Steel—%
(2)	105	86
(3)	105	105
(4)	106	86
(5)	112	75
(6)	118	130
(7)	121	109
(8)	132	109

AR
the
initia
They
tailo
buil
velo
heat
than
buil
B
tena
syst
rang
pera
ing
from
In
two
late

HEATING SYSTEM LOWERS SCHOOL COSTS

Hillsborough Township Elementary School, Hillsborough, N. J.

P. C. Van Nuys & Son, Jay C. Van Nuys, Architect

Raymond Althoff, Consulting Engineer

Julian E. Garnsey, Color Consultant

Oliver A. Deakin, Landscape Architect

ARCHITECTS of the Hillsborough School integrated the heating system with the basic structure to achieve both low initial cost and optimum performance. They reversed the usual procedure of tailoring the heating system to fit the building plans after they have been developed. As a result, installed cost of the heating and ventilating system was less than 7 per cent of the total cost of the building.

Besides providing low cost and maintenance, the central warm air heating system can be controlled easily at long range to maintain a comfortable temperature regardless of solar gains, heating load of lighting fixtures and heat from occupants.

In this school, the architects turned two state building requirements — unilateral daylighting and 12-ft classroom

ceilings* — to economic advantage in the design of the heating system. The requirement of unilateral lighting determined that a double-loaded corridor be used which, combined with a 12-ft ceiling, ordinarily would have meant quite a bit of waste space in the corridor. But in this case dead space over and under the main corridor is utilized for air ducts. The ceiling of the corridor was furred down to provide a space 3 ft high by 10 ft wide for air supply ducts, leaving the corridor 9 ft high. The air space in the false ceiling has been divided into two chambers by continuous steel decking, insulated with 1½ in. of vermiculite concrete. The decking is supported by angle bars set in the 8-in. concrete block corridor walls. Under the corridor is a tunnel 10 ft wide by 4 ft deep to receive

* Eliminated since construction of the Hillsborough School.

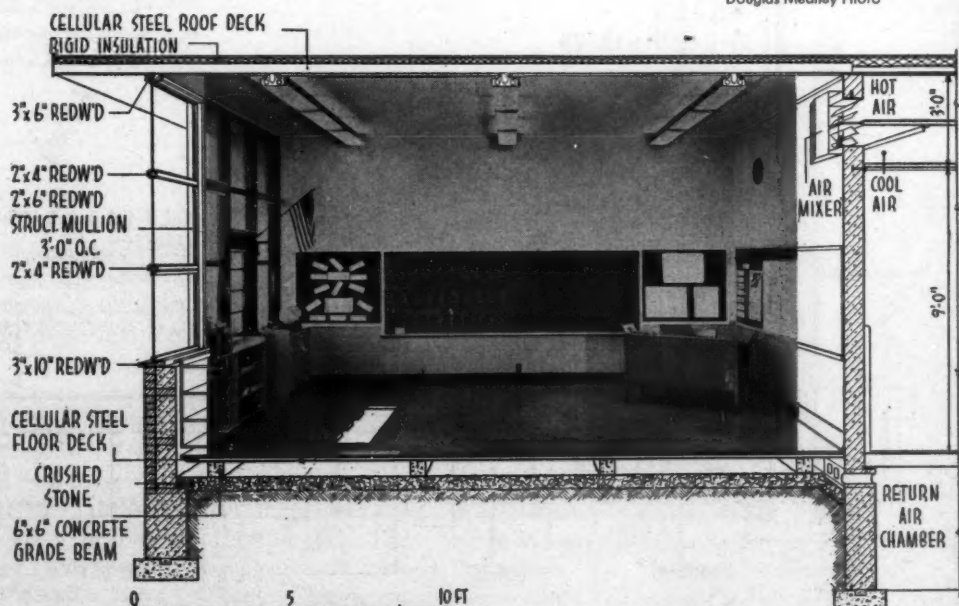
COST DATA

General Construction: (including site development, landscaping, kitchen equipment and sewage disposal).	
Heating & Ventilating	\$186,031.00
Plumbing	22,787.00
Electrical	28,372.00
Structural Steel:	22,644.00
(including floor & roof deck)	80,714.00
	\$340,548.00

Unit Building Costs

Designed occupancy	466 pupils
Cost per student	\$730.80
Total volume	394,976 cu ft
Cost per cu ft	\$0.86
Total area	28,184 sq ft
Cost per sq ft	\$12.08

How the architects integrated the heating and ventilating system with the structure to achieve low cost can best be seen in this illustration. Hot (130 F) and cool (60 F) air enters an air mixer at the top of each room through a double-deck duct system at the top of the corridor (cellular steel, insulated with lightweight concrete, forms the ducts). Air travels out of the mixer, across the room, down past the windows, farther down behind the bookcases, and then under the floor to the return air chamber. Air is mixed to respond to individual thermostats.



HEATING OF HILLSBOROUGH SCHOOL



Douglas Meeney Photo

View towards the main entrance of the Hillsborough school shows large amount of window area. The heating and ventilating system can compensate to some extent for solar gains as long as outside air is cooler than inside air

exhaust air from the rooms, from which the air may either be discharged to the atmosphere or recirculated, or partly both.

Every room is supplied with a constant volume of totally fresh, filtered outside air during school hours. The system automatically operates on recirculated air during periods of non-occupancy to conserve fuel. A specially designed and inexpensive method of blending hot (130 F) and cold (60 F) air solves the problem of adjusting the temperature to respond to thermostats.

How the System Operates

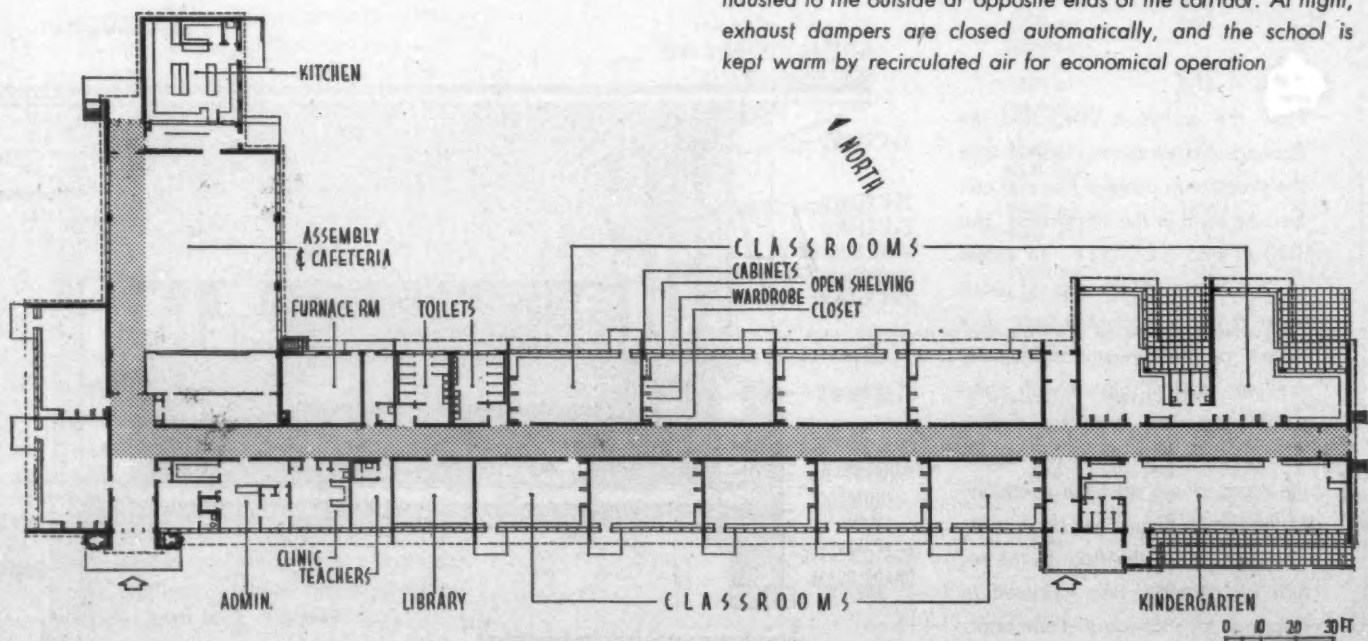
A constant volume of air is taken from the corridor supply ducts at ceiling height for each room. Manually set volume dampers at each outlet balance the air flow in the system. Each room has an air-mixing grilled register to blend air from the hot and cold ducts according to the demand of a room thermostat. The thermostat controls a small pneumatic piston which operates adjustable dampers to regulate the mixture of 130 F and 60 F air. The registers diffuse the air to

the right and left to establish uniform distribution throughout the room.

Attached to a program clock, the system operates automatically. The janitorial staff takes care of what few adjustments have to be made to the system.

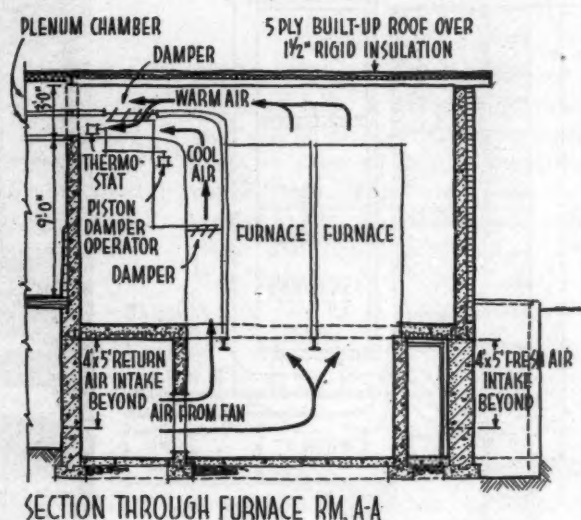
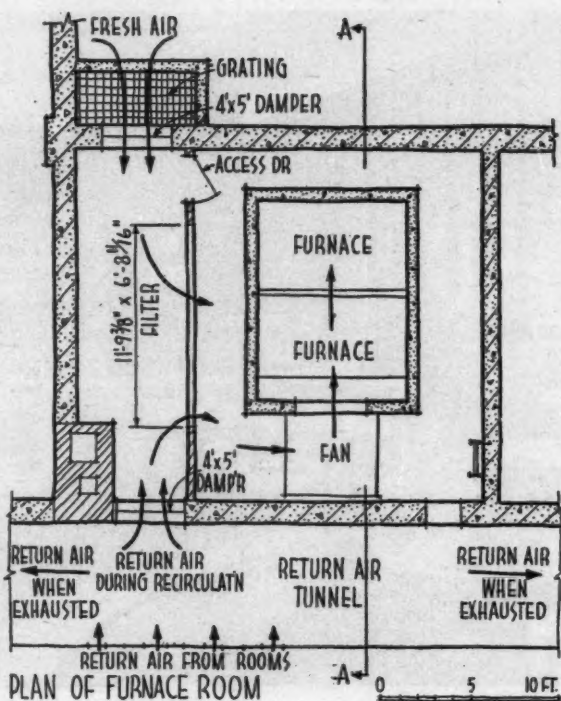
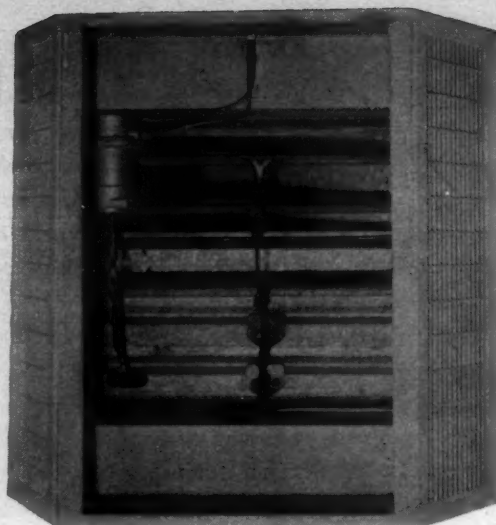
Continuous slotted openings have been cut in the floor for removal of air from each room: (1) 1½-in. openings behind built-in bookcases along the exterior wall; (2) 4-in. openings inside the wardrobes along one inside wall. Wardrobe doors are open 4-in. at the top to allow entry of ventilating air in ac-

The return air tunnel, located under the corridor, is indicated on the plan by shading. During school hours return air is exhausted to the outside at opposite ends of the corridor. At night, exhaust dampers are closed automatically, and the school is kept warm by recirculated air for economical operation



cord
Ex
open
deck
throu
block
along
elimi
the e
pose
The
concr
tile f
Tw

Plan and section of the furnace room are fairly schematic to illustrate air flow in and out of the furnaces. In the daytime only fresh air is supplied to the rooms. Part of the fresh air passes through furnaces, and some is by-passed to go into the cold air duct (see section). Air is mixed in the rooms by the device shown at right to respond to thermostats. The mixer, designed by the engineer, has a manual damper for balancing, and adjustable dampers, operated by a pneumatic piston. Exhaust air flows from under the floors of the rooms into the return air tunnel through cinder blocks laid horizontally in the top course of the tunnel



cordance with state code requirements.

Exhaust air is drawn into these slotted openings, flows under the cellular steel deck flooring and empties into the tunnel through the cells of every third cinder block which has been laid horizontally along the top course of the tunnel. This eliminates the need for ductwork. While the exhaust air has no functional purpose, it does help keep the floor warm. The steel decking, laid on 6-in. by 6-in. concrete beams, is covered by asphalt tile flooring over a rubber-base concrete.

Two-thirds of the exterior wall in each

classroom is windowed. The windows are in the air flow path since exhaust openings are below them. Warm air continuously "wipes" the windows and helps prevent condensation.

Controls are set so that 20,000 cu ft of fresh air per minute are brought in, heated and delivered to the rooms continuously. The fresh air intake opening, 4 by 5 ft, has a pneumatically controlled damper through which air passes only during the fresh air operating cycle. The air then is drawn into a plenum chamber through a 12 by 7 ft bank of filters and

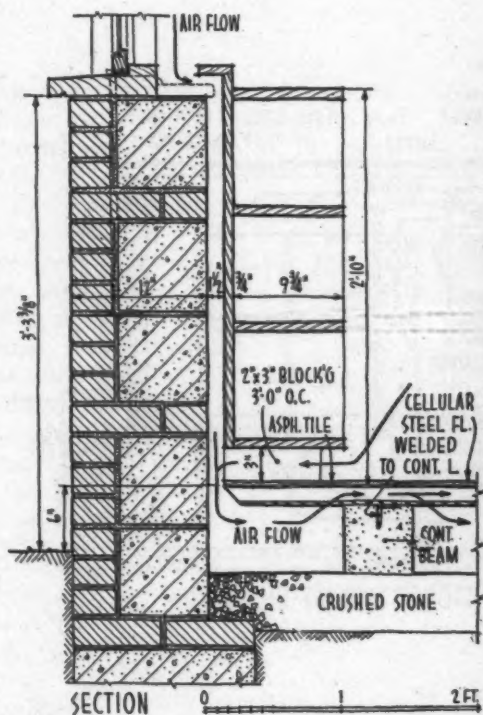
forced upward by the 20,000 cfm fan into two direct-fired heaters mounted on the floor above the chamber.

Part of the air is by-passed around the heaters to be used in making up the "cold duct" supply. The remainder passes through each heater and discharges directly into the insulated "hot" duct.

Thermostatically controlled, motor operated dampers bleed some of this hot air to mix with the cold air for the 60 F "cold duct." The "hot duct" contains a thermostat which controls the burners of

HEATING OF HILLSBOROUGH SCHOOL

After air diffuses through the classroom, it flows down past the windows, in behind the bookcases, then under the floor to the return air tunnel. Bookcases are blocked up from the floor to give more return air space, and have a ledge at the top hiding the return air passage so children will not be tempted to stuff it up with paper. Air flowing under the floor keeps it warm, but is simply a bonus and is not designed as a heat source. Law in New Jersey requires wardrobes to be ventilated, so there is a 4-in. opening at the top of the doors and an opening in the floor which is covered with expanded metal mesh. At first, school authorities wondered how the use of cellular steel decking, covered only by a rubber-base concrete and asphalt tile, would work out as a walk surface, but upon completion were quite satisfied



Douglas Meaney Photo

both heaters to obtain 130 F air. A humidifier is installed in the duct for use as needed.

After school hours, the program clock reverses this operating cycle. The fresh air intake damper closes, a return air damper in the tunnel opens, the two exhaust blowers at either end of the tunnel are shut off and the system operates on 100 per cent recirculated air.

Although the system can be operated on a mixture of both fresh and recirculated air, it is designed primarily for 100 per cent fresh air operation down to 0 F. If the outdoor temperature should drop

below zero, some recirculated air can be used to establish desired comfort.

The only ductwork required for the entire system is that used in the heater room, two small runs into the cafeteria-assembly hall, and one "hot" duct for the kitchen.

The designers believe that this adaptation of direct-fired warm air heating, with its inherent low cost and maintenance demonstrates practicability for large, one-story structures.

Construction Details

Roof of the building is steel decking

topped by 1½-in. of rigid insulation and a 5-ply felt, tar and gravel covering. The roof overhangs the windows 2 ft 7 in. The 3 by 3 ft redwood window frames support the roof, eliminating need for lintels.

Partition walls between classrooms are of 4-in. concrete block projected out 2 ft 7 in. These projecting partitions serve as fire stops and also make classrooms appear deeper. Ceilings of all rooms are acoustical tile. Lighting is fluorescent. Each classroom is equipped with tackboards, chalkboard, storage facilities and work space.

Base

Bro
system
warm
heavy
intro
a hom
constr
The s

Clay
Heat

Vit
to rep
heatin
for Sp
Beisw
of the
been
sive q
sistan
slabs

Hea
two f
with a
per h
ture i
tion s
streng
duct
the fu
the fa
heat o
Fro
branch

JUN

PRODUCTS for Better Building



New baseboard system provides warm air heating. Right: cut-away section shows double-elbow supply duct set between joists. Left: special lip prevents wall streakage, as shown in detail

Baseboard Heater

Brandes Wall Base Heating is a new system which combines the features of warm air and baseboard heating. The heavy-gage metal units are designed to introduce heat along the outside walls of a home, and are adaptable to new or old construction, with or without basement. The system is said to offer very fast

heating action. A special lip is formed at the top of the wall base to direct warm air away from the wall and prevent streaking.

Wall Base is made in two parts, front and rear, to allow the rear section to be installed during roughing-in procedures. The front is applied as the house is

finished. The same units may be used as return air grills. A spring return valved head can be supplied for use in supply ducts to close off heat in individual rooms. The units are sized the same as a regular 4½ in. wood base, and have a prime coat finish. Brandes Co., 2046 Winnebago St., Madison 4, Wis.

Clay Pipe Used for Heating Ducts

Vitrified clay pipe has been employed to replace critical metal for underfloor heating ducts in a new building designed for Spot Motor Co., Akron, Ohio, by Beiswenger and Hoch, Architects. Use of the clay pipe was also said to have been specified because of its non-corrosive qualities, ease of handling and resistance to "buckling" as concrete floor slabs are poured.

Heat for the system is supplied by two forced-air, gas-fired blower units, with a combined output of 250,000 Btu's per hour. The total area of the structure is 25,000 sq ft. The heat distribution system required 250 ft of extra-strength clay pipe and fittings. The main duct system starts with 24-in. pipe at the furnace, reducing to 12-in. pipe at the farthest perimeter points to equalize heat output.

From the main ducts, 8-in. clay pipe branches connect with 17 floor registers,

located at the base of the showroom windows. Louver controls on the registers permit adjustment of heat output and make it possible to direct heat flow against the windows to defrost them during winter months.

Trench depths for the heating system vary from 42 to 24 in. The clay pipe

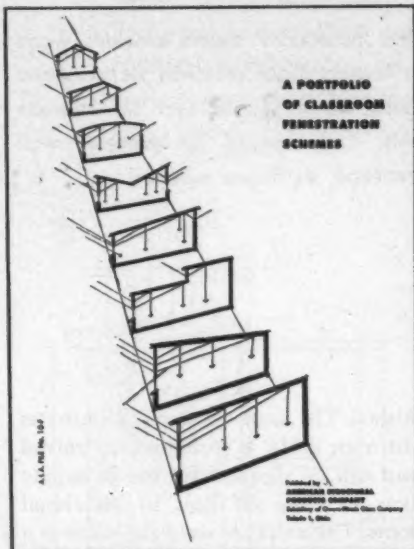
was cradled in sand, and backfill tamped to a height of 6 in. over the top of the pipe. All joints were made with hemp packing and mortar. Wire mesh reinforcing was laid over the backfill, and floor poured to a depth of 6 in. The Robinson Clay Product Co., 65 W. State St., Akron, Ohio.

(Continued on page 208)

Clay pipe replaces metal for underfloor ducts in new heating installation



LITERATURE FOR THE OFFICE



New portfolio shows daylighting schemes developed for 12 recently built schools

Classroom Fenestration

A Portfolio of Classroom Fenestration Schemes. A series of data sheets covers 12 schools in various parts of the country employing light-directing glass block. Each school is presented with a rendering or photo, plot plan, and typical classroom cross section and floor plan. General background, construction and fenestration are discussed. The various schools show light-directing glass block as a primary fenestration and in conjunction with other light-transmitting media. Several of the schemes are given with daylight illumination measurements, including room reflectivities, brightness ratios and measurement methods. 12 folders, illus. American Structural Products Co., Subsidiary of Owens-Illinois Glass Co., Toledo 1, Ohio.*

Heating Controls

Honeywell Automatic Heating Controls (Catalog and Price List 1951-1952). Presents an extensive line of automatic controls for various types of heating

*Other product information in Sweet's File 1951.

systems. These include thermostats and accessories, limit controls, relays, safety devices, stoker and hand-fired-controls, hot water accessories, etc. Also included are controls for attic fans, refrigeration and evaporative coolers, warm air registers and mercury switches. Each item is presented with illustration, description and specification data. Sections are also devoted to the selection of a control system, and to thermostat heater data. 60 pp., illus. Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn.*

Fastening Methods for Aluminum

Mechanical Fastening Methods for Aluminum. Book presents methods, other than welding, brazing and soldering, which may be used to join aluminum parts to metallic or non-metallic materials. Eight main sections are devoted to (1) standard rivets, (2) special rivets, (3) standard screw fasteners, (4) special screw fasteners, (5) nails and pins, (6) metal stitching, (7) mechanically formed joints, and (8) resin bonding. Each method is illustrated with photos and sketches. Sizes and properties of many standard fasteners are included in a series of tables. The book is available without charge to engineers, designers, production men and executives in the metal-working industry, when requested on company letterhead. 136 pp., illus. Reynolds Metals Co., 2500 S. Third St., Louisville 1, Ky.*

Modular Tile

Forty Years With Stark Modular Glazed Facing Tile (Catalog No. 51). Presents a line of tiles in modular sizes for use with the Modular Coordination System. Types, properties and uses of the tiles are covered, together with specifications for the units. Typical installations are illustrated. A series of dimensioned sketches gives sizes and shapes of available tile units. Other data given includes a vertical coursing table, sill and lintel schedule, schedule for estimating, and a table of units and weights per sq ft. A diagram of structural bonding

for interior and exterior walls, and three typical modular jamb details are also included. 24 pp., illus. Stark Ceramics, Inc., Canton 1, Ohio.*

Electronic Air Cleaner

Westinghouse Type PE Encased Precipitron (Booklet DB 93-820). Describes a "packaged" electronic air cleaner for commercial and industrial applications. Features and operation of the unit are illustrated and described. Applications for various building types are discussed. The component parts of the assembly are shown in a series of photographs and renderings. Typical specifications and a table of capacities and dimensions are also included. 8 pp., illus. Westinghouse Electric Corp., Sturtevant Div., Hyde Park, Boston 36, Mass.*

Steel and Aluminum Building Panels

Fenestra Steel and Aluminum Building Panels. Catalog gives specifications and descriptions of a line of metal wall, deck and floor panels designed for use in schools, hospitals, houses, industrial and commercial buildings. Each type panel is shown in cut-away drawings, along with tables giving minimum required section properties, panel section properties, and panel selection for given spans and loads. A series of detail sheets shows methods of joining and supporting the panels. The catalog also contains a number of photos of new job installations. 38 pp., illus. Detroit Steel Products Co., 3113 Griffin St., Detroit 11, Mich.*

Stained Shingles

Stained Shingles and Shakes for Roofs and Sidewalls. Booklet shows typical installations using stained shakes and shingles for houses. Features of the materials are discussed, along with notes on application. Suggested specifications and size tables are also included. Illustrations show colors available in the various wall and roof materials. 8 pp., illus. Stained Shingle & Shake Assn., 835 Central Bldg., Seattle 4, Wash.*

(Continued on page 234)

FOR SCHOOL CORRIDORS, GYMNASIUMS, CLASSROOMS, CAFETERIAS . . .

beautiful, easy-to-maintain

STARK GLAZED FACING TILE



▲ Note these walls of Stark Glazed Facing Tile. Many years of "cost-less" service are ahead for these corridors (in tones of cream, buff and tan) in the Jesse Mason School, Canton, Ohio. Outcalt, Guenther & Associates, Architects, Cleveland, Ohio; R. H. Evans Co., General Contractor, Columbus, Ohio; Joseph Halter and Sons, Masonry Contractor, Canton, Ohio.

▼ Classroom in School, Jackson Township, Ohio. Firestone & Motter, Architects, Canton, Ohio; Melbourne Bros., Contractor, Canton, Ohio.



In every school interior where youngsters work or play, Stark Glazed Facing Tile serves to best advantage, and for these reasons:

It is strong and durable, able to withstand heavy school traffic.

It helps create ideal lighting conditions.

It keeps maintenance at a minimum. Permanently glazed, it is impervious to dirt and grease, is easily cleaned with soap and water, never needs painting or redecorating.

It is a wall and finish in one. Modular in size, it builds fast—saves construction time and cost.

These same advantages of Stark's Glazed Facing Tile also make it the ideal material—both for new construction and remodeling—in industrial plants, hospitals, institutions, public and commercial buildings. See our Sweet's Catalog 4d-9.

For architects, engineers, contractors and building owners and administrators, we have prepared a brochure on the modular application of Stark Glazed Facing Tile. It contains much valuable information, and will be sent free to you upon request.

STARK CERAMICS, INC.

(formerly The Stark Brick Co.)

Canton 1, Ohio

14305 Livernois Avenue Detroit 4, Michigan
15 East 26th Street New York 10, N. Y.

THE FITZGIBBONS BOILER®



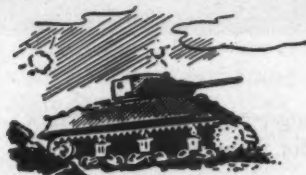
"Saves a ton a day on any tow"

That's what the towing masters of the 1880's and 1890's said about Fitzgibbons steel boilers. They were men who thought of coal in terms of the freight it could move, at a period when barge traffic was relatively as heavy as that of the modern four-lane auto highway. Those men knew boilers and especially requested Fitzgibbons Steel Boilers.



"This boiler fulfills every expectation"

So reported Admiral Winfield Scott Schley, famed leader at the Battle of Santiago, when in the early 1900's he headed a commission to find a distinctive boiler for a particular naval service. He gave Fitzgibbons top-rating, stressing its rapid steaming ability with the words "the evaporative power of the boiler is . . . ideal." Fitzgibbons steel boilers of today still possess this quality.

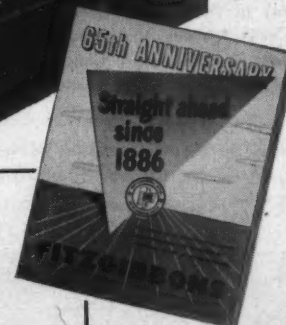
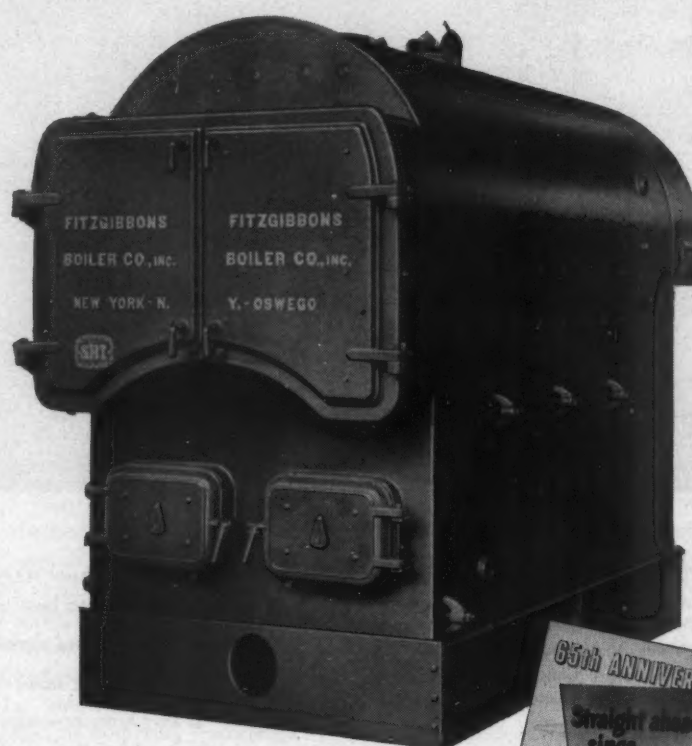


"The nation owes much to you and your employees"

So wrote Colonel F. J. Atwood, District Chief of the Rochester Ordnance District, at the conclusion of World War II. The facilities of Fitzgibbons had been turned to the production of military equipment. "Combat tank hulls produced by your organization" wrote Colonel Atwood, "helped to make our medium tanks the finest weapons of their type in the world." Fitzgibbons will always be proud of its Army-Navy "E" Awards.

65 year heritage of success

A Fitzgibbons boiler is far more than merely a structure of fabricated flange-quality steel plate . . . It is the end result of almost a three-quarter century of history-making tradition, of holding rigidly to established quality while unceasingly casting ahead for ways to make an even better boiler. The Fitzgibbons story is one of success in the best American tradition—giving people a quality boiler which returns its cost many times in fuel economy during its long life.



New book tells the Fitzgibbons Story. "Straight Ahead Since 1886" gives you the background information your customers want to know. Write for Bulletin DE-4.



Fitzgibbons Boiler Company, Inc.

101 PARK AVENUE, NEW YORK 17, N. Y.

Manufactured at: OSWEGO, N. Y.

Sales Branches in Principal Cities

HARDWARE-24: Sliding Doors

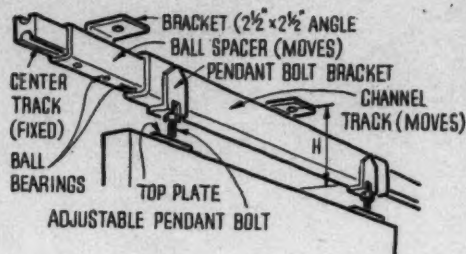
(Except garage and industrial doors)

Prepared by Seymour Howard, Architect, Instructor at Pratt Institute, with the cooperation of the American Society of Architectural Hardware Consultants

OVERHEAD SUPPORT

BALL SUPPORTED

(2 rows of ball bearings, in line vertically)



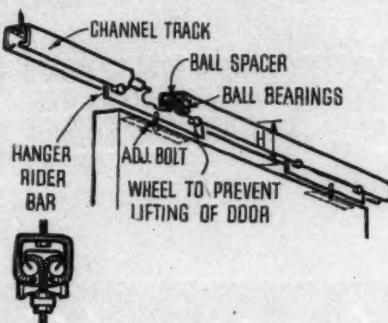
Weight of Door (lbs.)	Head Clearance "H" (in.)
up to 75	4 3/4
" " 150	4 1/4
" " 200	5 3/4
" " 300	6

Note—Dimensions and capacities for one manufacturer only. Check with catalogs.

BALL SUPPORTED

(2 rows of ball bearings, in line horizontally)

As shown, can be used for doors up to 200 lbs, with head clearance 3 1/2 in. Also available with adjustment for track and door, head clearance 6 3/4 in.

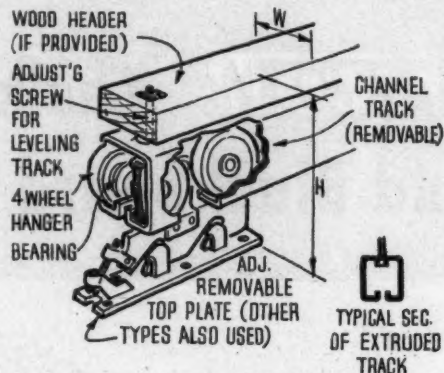


Also available, slightly different design, for:

Weight (lbs.)	Clearance "H" (in.)
up to 35	1 1/8 (non-adjust.)
" " 50	1 3/8 (" "); 2 1/2
" " 75	2 1/2
" " 150	2 3/4
" " 200	4
" " 300	4

WHEEL SUPPORTED, CHANNEL TRACK

TRACK: rolled steel, formed steel, or extruded aluminum. BEARING: plain, bushed, Oilite bushed, steel balls or steel rollers. WHEELS: steel, brass, fibre, rubber or plastic.



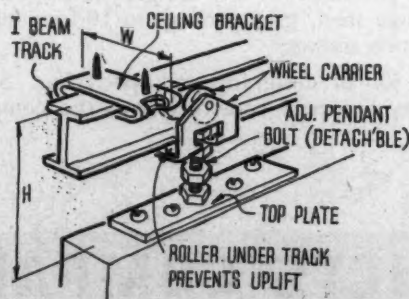
Weight limit (lbs.)	Width "W" (in.)	Clearance "H" (in.)	Notes
125	2 1/4	6 1/4	2 wheels only } as shown 4 wheels only } 4 wheels only }
175	2 1/4	6 1/4	
300	3 1/4	8 1/2	
100	1 3/4	3	
200	1 3/4	3 1/4	With header omitted, non-removable top plate, bracket support for track, and adjustable pendant bolt Non-adjustable
300	2 1/4	3 1/2	
50	1	2 3/4	
50	1	1 1/8	

Also available with special hangers for folding and accordion doors:

Weight (lbs.)	W (in.)	H (in.)
80	3 3/4	4 3/4 — 4 7/8 (higher "H" for folding doors)
110	3 3/4	5 3/4 — 5 7/8
225	5 3/4	6 3/4 — 7 1/4

WHEEL SUPPORTED, I-BEAM TRACK

WHEELS: steel, ball bearing — or nylon, steel ball bearing
TRACK: steel or aluminum



Weight (lbs.)	W (in.)	H (in.)
50	1 3/4	2 1/4
50	1 3/4	1 3/8 (non adjust.)
For by-passing, use 2 separate I-beams, or double I-beam track (aluminum); W = 1 3/8 in. + door thickness and clearance.		
175	1 3/4	3 3/4
For by-passing use double I-beam track (aluminum); W = 1 1/2 in. + door thickness. Also available with special hangers for folding and accordion doors (H = 4 1/2 in.).		



Milcor steel moulding and chalk trough furnished with Insulmat form a typical modern class room unit. Face top and side panels devoted to bulletin boards.

Milcor Blackboard Trim was utilized on this unique installation mounted on panels on folding doors.



Warrandale School, Waltham, Mass.
Thomas Warrandale, Inc., Architects

*In a class by itself
for any school-*

MILCOR * Chalk Trough and Blackboard Trim



Milcor Blackboard Trim and Chalk Trough are available in a complete variety of moulds, sizes, and types to meet every requirement. Complete fittings to match. All chalk trough furnished with sound-deadening Insulmat backing.

Safety, service, and sanitation are the key words for school design. That's why Milcor — the outstanding leader in the fireproof construction field — is a natural for your projects.

There's a Milcor steel building product that is ideal for most every interior detail. Chalk trough and blackboard trim are prime examples. From the wide variety of Milcor moulds and fittings you can select the exact combination you need for any design you have in mind. All trim is made from 20-gauge steel, gray primed, in 10-foot lengths; comes complete with installation screws.

Simplify your job of designing and specifying. Standardize on one source for modern fireproof construction — the complete Milcor Steel Building Products line!

F-337

*Reg. U. S. Pat. Off.

INLAND

STEEL PRODUCTS COMPANY

Formerly Milcor Steel Company

4035 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN

Baltimore 24, Md. • Buffalo 11, N. Y. • Chicago 9, Ill. • Cincinnati 25, Ohio • Cleveland 14, Ohio • Detroit 2, Mich. • Kansas City 8, Mo. • Los Angeles 23, Calif. • New York 22, N. Y. • Rochester 9, N. Y. • St. Louis 10, Mo.

JUN

HARDWARE-25: Sliding Doors

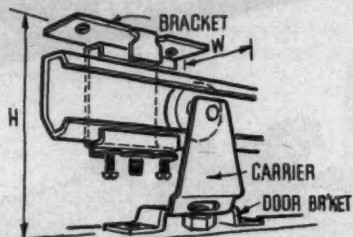
Prepared by Seymour Howard, Architect, Instructor at Pratt Institute, with the cooperation of the American Society of Architectural Hardware Consultants

OVERHEAD SUPPORT

CONTINUED

WHEEL SUPPORTED, "C" TRACK

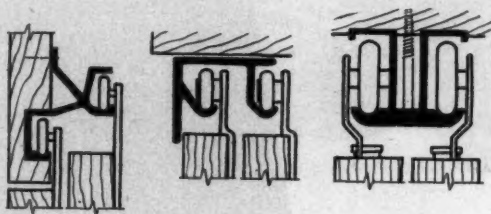
Note: Dimensions, track profiles, hanger styles, vary with manufacturers. Check with catalogs



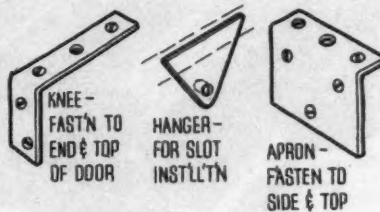
Many variations of track section available. TRACK: steel or aluminum; double sections available for by-passing doors. WHEELS: steel, fibre, plastic, rubber or brass. BEARINGS: Oilite, ball bearing or plain. TRACK: may be fastened directly with screws (non-adjustable) or hung from brackets (adjustable) as shown. CARRIER: may be fastened directly or by an intermediary of bracket.

Weight or Thickness of Door (lbs)	W (in.)	H (in.) (adjustable)	H (in.) (non-adjustable)
50	(3/4 - 3/8)	1 - 3 3/4	1 (min)
100	7/8 - 2	2 - 3 3/4	1 1/2 - 2
200	1 1/4 - 2	3 - 4	

TYPICAL EXTRUDED SECTIONS FOR BI-PASSING DOORS



TYPICAL DOOR FASTENING DEVICES, OTHER THAN TOP PLATE



TYPICAL FLOOR GUIDES & TRACK



CONVERGING DOOR GUIDE



THRESHOLD TYPE

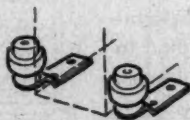


FLUSH TYPE

TRACK FOR FOLDING & ACCORDION DOORS



SLOT IN DOOR



FOR POCKET DOORS ONLY



SLOT IN DOOR



CONTINUOUS MET. STRIP ON DOOR ANGLE GUIDE

"Hospital-Versatile" Elevating

ST. JOHN'S HOSPITAL
Springfield, Missouri

Maguolo and Quick • St. Louis, Mo.
Architect-Engineer
McGough Brothers • General Contractors



Maguolo and Quick, Architect-Engineer, developed the plans for the complete group of St. John's hospital buildings: A general hospital, 325 beds, basement and seven floors; a nurses' home, basement and five floors; a laundry building, basement and first floor; a power house. Construction, started in June 1950, will be completed in July 1952.

OTIS ELEVATING includes all vertical transportation for all buildings and services. The main building has 2 Passenger Elevators, 2 General Service Elevators, 1 Outpatient Elevator, 1 Freight Elevator and 6 Dumbwaiters. The freight elevator will carry supplies from the ground floor to basement storage areas, 2 dumbwaiters will serve the diet kitchen, 2 more will serve the dining room, and 2 will handle sterile supplies and pharmaceuticals. The nurses' home has 1 Passenger and 1 Service Elevator.

A big job? Yes. But easily handled by OTIS under a single responsibility. Why? Because OTIS manufactures a complete line of vertical transportation equipment for hospitals and has a field organization well qualified to work with architects and engineers in solving complex hospital problems.

All, as explained in a new OTIS booklet: **THE MODERN HOSPITAL AND ITS ELEVATOR NEEDS**. A copy will be sent to you, upon request. For further details on Otis equipment, including escalators, call your local OTIS office. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.


6 ELECTRIC DUMBWAITERS


1 FREIGHT ELEVATOR


3 SERVICE ELEVATORS


4 PASSENGER ELEVATORS

Better elevating
is the business of



ARCHITECTURAL RECORD

HARDWARE-26: Sliding Doors

Prepared by Seymour Howard, Architect, Instructor at Pratt Institute, with the cooperation of the American Society of Architectural Hardware Consultants

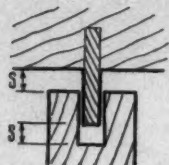
FLOOR SUPPORT

TYPICAL HEAD GUIDES

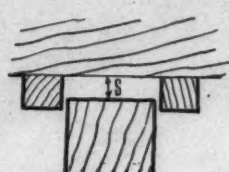
Note: space "S" must be allowed to permit lifting door up off track.



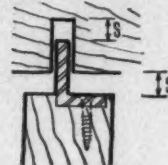
ROLLER GUIDE (1 pair per door). Can run in groove in head, in channel or between hardwood strips



HARDWOOD STRIP IN HEAD, GROOVE IN DOOR.



TWO HARDWOOD STRIPS ON HEAD.



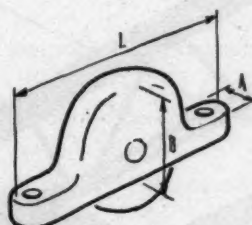
METAL ANGLE ON DOOR, GROOVE IN HEAD.

TYPICAL SHEAVES

Wheels have square edge for channel track, concave edge for T or W shaped track.



BEARING: Oilite.
HOUSING: cast iron, brass, bronze, aluminum.
WHEEL: fibre, cast iron, brass, bronze, aluminum; also with rubber tires (square edges only) and all rubber.



BALL BEARING TYPE
Use with T shaped track.

TYPICAL TRACK SECTIONS

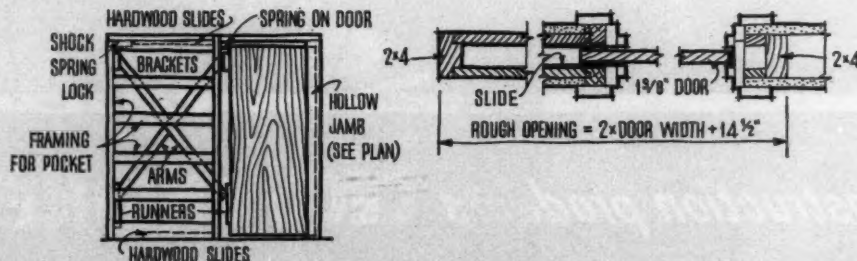
Special extruded sections are also available with weather-stripping.



TRACK: brass, bronze, aluminum, stainless steel.

EDGE SUPPORT (Scissors Type)

Door fully open (for installation of hardware).



RUSH ORDER

Plants



In construction products **CECO ENGINEERING**

Go Up On Time...

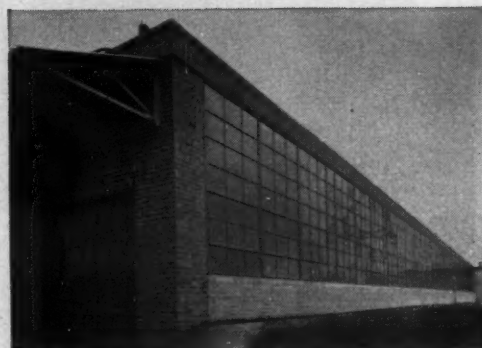
with Open-Web Steel Joist Construction

There's need for speed in building today—an urgency that has to be met. For the nation's industrial plants must expand so enough of the things vital to defense can be made in quantity—quickly. And to help you complete more plants "on time", open-web steel joist construction truly meets the need. Here is the fastest way ever to build, with a saving in labor, too. No temporary framework is necessary—there's nothing to take down. So since speed is the need on "rush order" plants, specify Ceco open-web steel joists. They are fabricated to exact sizes in the factory, come to the job tagged, ready to install. Ceco assures you fast service from five strategically located plants: Birmingham, Chicago, Houston, and the New York and Pittsburgh areas. When speed's your need—call Ceco.

CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 West 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities



Ceco open-web steel joists are especially suitable for defense plants. Their light weight permits speedy installation without special equipment or falsework—also reduces the size of supporting beams, columns and footings.



Standard joists span up to 32 feet and Long-span joists up to 64 feet. By using these maximum spans, the number of columns are reduced and more manufacturing area is made available.

**CECO
STEEL**®

makes the big difference

N. Y. STATE BUILDING CODE COMMISSION

(Continued from page 187)

of the provisions of the state building construction code is the responsibility of the municipalities. For their guidance we shall prepare a model administrative ordinance—for their guidance, only. Administration and enforcement of building regulations shall continue to be the responsibility of the municipalities of the state.

To answer the second question: We will have nothing whatsoever to do with

zoning. Each municipality may regulate—personally I would like to put it more strongly and say should regulate—through its own zoning ordinance such matters which belong logically to zoning.†

Unfortunately, in the past building codes have sometimes contained zoning

† An excellent manual as a guide to zoning titled *Local Planning & Zoning* is available free from the New York State Department of Commerce.

provisions, and, vice versa, zoning ordinances have contained building regulations. The two are entirely different matters.

Statewide Codes Considered by Others

Clearly, passage and approval of our state building code law has been a bold step. But even the pioneer wants companionship. We decided we should tell the other states about the work we are doing and ask them to tell us in turn what they were doing in their respective states. Apparently, preparation and adoption of uniform statewide codes have also been under consideration for some time in a number of states. However, most states seem to hesitate to establish that firm foundation—mechanism and budget. They still cherish the hope that volunteer services of a few individuals or a combination of these may somehow produce their state code. I am afraid they will be disappointed.

At a recent meeting of building officials the development of building codes on a statewide level was discussed. Speakers from Massachusetts, Iowa, New Jersey, Ohio and New York told of their separate efforts. I felt then very keenly the need for strengthening the lines of communication between all of us who are undertaking this kind of work in different states. I felt sure that exchange of building code information and experience would have definite value. Thus the idea of a possible future nation-wide Council of State Building Code Commissions was born. It is still a dream. Our commission may help to make it come true.

I am reminded of what George Thompson wrote: "... the code can be a beneficent influence guiding the general course of construction in safe channels, or it can be a means of hampering the orderly growth of the community that it is supposed to protect."

There isn't any doubt about which we want the New York State Building Construction Code to be.

Board of Consultants

John O. Merrill (directed the revision of the Chicago Building Code); George E. Strehan, Building Officials Conference of America, Inc.; George N. Thompson, National Bureau of Standards; Walter C. Voss, Massachusetts Institute of Technology; and Ralph E. Winslow, Rensselaer Polytechnic Institute.

Panel of Specialists

Mr. H. L. Whittemore—structural requirements; Dr. C. E. A. Winslow, Messrs. Allen Pond, Ralph J. Johnson, and Malcolm Hope—health; Dean F. M. Dawson, Messrs. J. L. French, Vincent T. Manas, and Robert S. Wyly—plumbing; Dr. Jerome Spar—weather (particularly wind and snow); Dr. Daniel T. O'Connell—earthquakes; Dr. S. H. Ingberg—fire resistance and fire protection.

MAXIMUM IN SANITATION



Bradley Washfountains

Bradleys, with their modern health protecting features—automatic foot-control, self-flushing bowl, ever-clean spray of tempered water—provide the MAXIMUM in sanitary wash facilities.

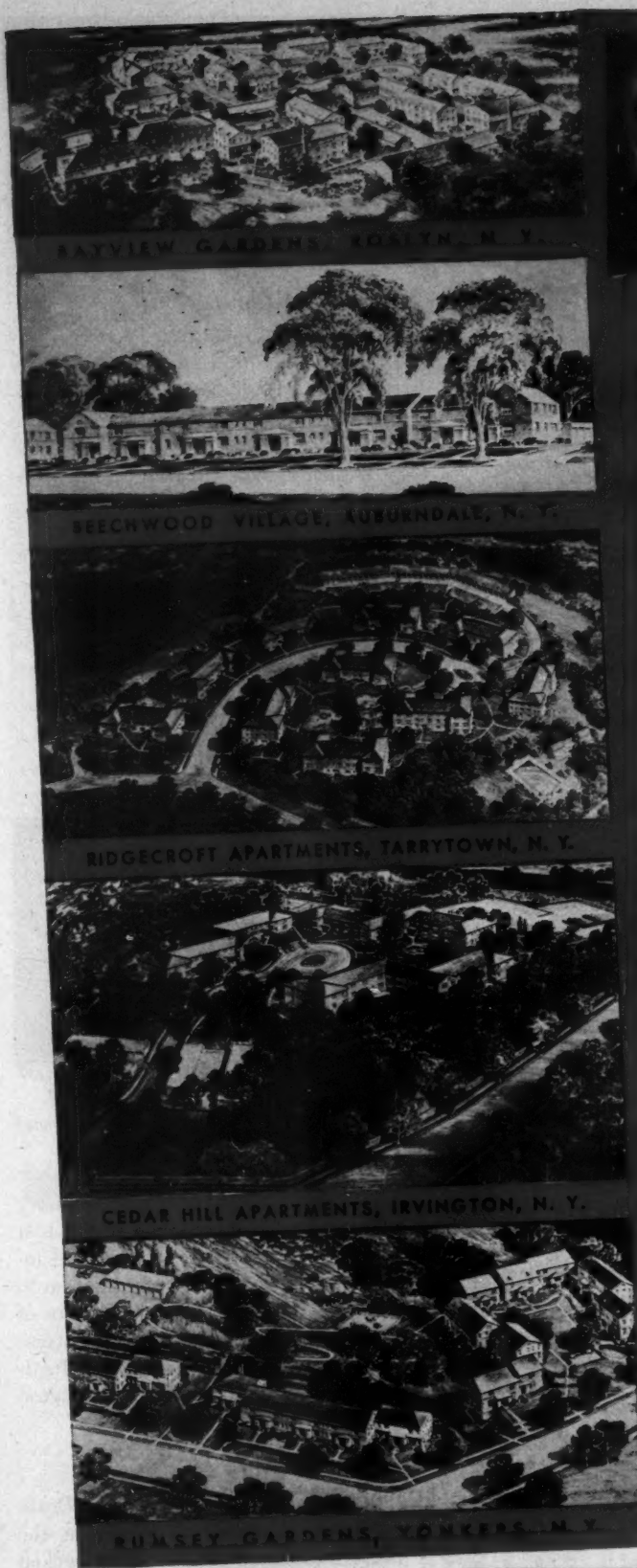
Economy too, is an important advantage of a Bradley installation. One 54" circular Wash-fountain serves 8 to 10 simultaneously using little more water than an ordinary "single-person" wash basin. Hot water waste is eliminated and maintenance reduced. Installation is simplified also since only three connections are needed—hot water, cold, and drain. Bradleys are available in juvenile or standard heights. BRADLEY WASHFOUNTAIN CO., 2227 W. Michigan Street, Milwaukee 1, Wisconsin.

BRADLEY
Washfountains

Write today for
big illustrated
Catalog D-713.
No obligation.
Distributed Through
Plumbing Wholesalers

A Few
SCHOOL
Installations

A & M College
Adrian High School
Atchison Grade School
Bala-Cynwyd School
Beaumont Trade School
Border Star School
Carleton School
Cedar City High School
Coatesville H. S.
Cornell University
Dartmouth College
Edison School
Frostburg High School
Ga. School for Deaf
Georgia Tech.
Glen Ellyn High School
Hilmar Union H. S.
Immanuel Lutheran S.
Kenilworth School
Litchfield High School
McKinley High School
Mexican School
Mo. State Training S.
Mt. St. Michaels Acad.
Oakdale Christian S.
Outer Mission H. S.
Penn. Soldiers' O. S.
Penn State College
Princeton University
Ridley Township H. S.
Santa Barbara St. Col.
Somerset High School
South Side School
Trenton High School
University of Illinois
U. S. Military Academy
Vir. Ind. School for Boys
Washington State Col.
Whiting School
Yaeger School



RAYVIEW GARDENS, KOSKUTZ, N. Y.

BEECHWOOD VILLAGE, KUBERNDALE, N. Y.

RIDGECROFT APARTMENTS, TARRYTOWN, N. Y.

CEDAR HILL APARTMENTS, IRVINGTON, N. Y.

RUMSEY GARDENS, YONKERS, N. Y.

**SPECIFY SARCO THERM
SEE SWEETS CATALOG
SECTION $\frac{29E}{SA}$**



architect . . Gustave W. Iser



**and
engineer . . R. W. Billharz**

United on Sarcotherm Modulating Heat Control

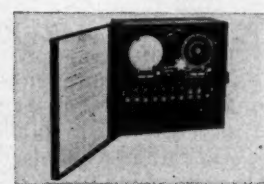
**To give these outstanding apartments perfect
heating comfort under all weather conditions**

Yes, team work pays! It brings increased efficiency as well as superior design. The addition of Sarcotherm heat control to the combination made sure of owner satisfaction.

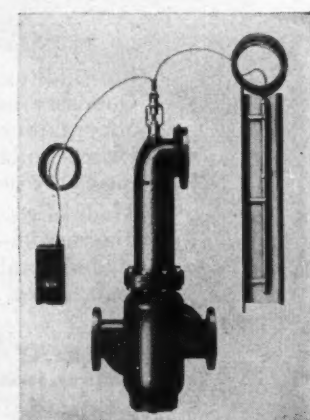
Sarcotherm is the simple, mechanical outdoor control, ideal for hot water or radiant heat.

For apartments, hospitals and institutions, it can be made fully automatic by adding the Centralized Program Panel.

Ask a Sarcotherm engineer to see you today. There is one near you. Or write for new bulletin ST-5011.



Typical centralized
program panel.



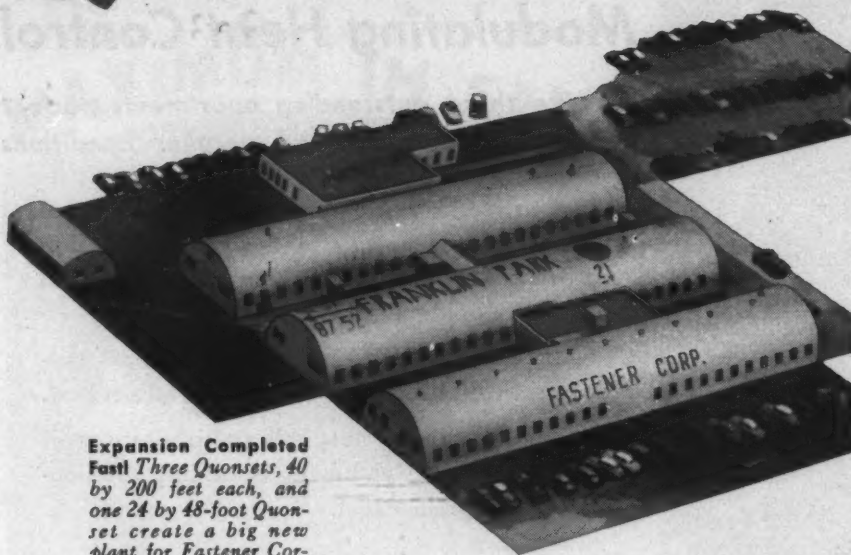
Sarcotherm
weather-compensated
control valve.

20

Sarcotherm

SARCO THERM CONTROLS, INC. • Empire State Bldg. • NEW YORK 1, N. Y.

Build Quicker with QUONSETS



Expansion Completed
Fast! Three Quonsets, 40
by 200 feet each, and
one 24 by 48-foot Quon-
set create a big new
plant for Fastener Cor-
poration at Franklin
Park, Illinois.

IDEAL FOR FACTORIES, WAREHOUSES, MACHINE SHOPS, STORAGE OR SERVICE BUILDINGS

For additions to your present plant—or for new plants—Quonsets mean *fast* completion, economy of materials, adaptability to *any* use. Also, should plants need more expansion later, you can add Quonset to Quonset, according to the need.

Made of N-A-X HIGH-TENSILE steel, Quonsets provide non-combustible construction and permanence far surpassing less modern buildings. They require little upkeep—are easily maintained. Let Quonsets serve you now. Write us today.

GREAT LAKES STEEL CORPORATION
Stran-Steel Division • Ecorse, Detroit 29, Michigan



Expands Floor Area by 20,000 Sq.
Ft. Bill Jack Scientific Instrument
Co., San Diego, Calif., began with
two Quonsets and added 20,000
sq. ft. of floor space in just 50 days.

NATIONAL STEEL CORPORATION

STRAN-STEEL AND QUONSET REG. U. S. PAT. OFF.

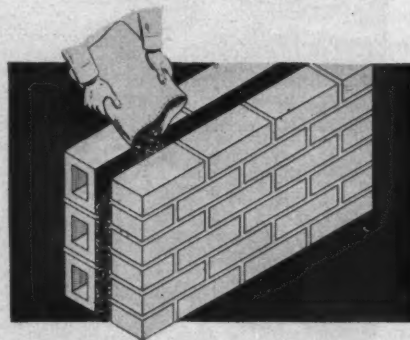
Architectural Engineering

PRODUCTS

(Continued from page 195)

Insulated Cavity Wall

The Structural Clay Products Research Foundation announces a new type of insulated cavity wall that is reportedly water tight and requires no furring, or lathing. The wall, called the *SCR Cavity Wall*, may be plastered direct, or interior masonry surfaces may be left exposed. The system features a new low cost, easy to handle insulation that is poured into the hollow space between interior and exterior masonry wall sections. The insulation is said to be inorganic, non-settling, and to have a U value of .12.



New cavity wall is fully insulated, water tight, needs no furring or lathing

The cavity wall is said to be the first development in the brick and tile industry's long-range research program to introduce advancements in the uses of brick and tile for economical construction. Structural Clay Products Institute, 1520 18th St., N. W., Washington 6, D. C.

Revolving-Door Drains

The *Non-Skid Revolving-Door Drain* has been developed to minimize the problem of slush and dirty water tracked into building entrances where revolving doors are used. The unit is designed to set flush with the floor surface at both the exterior and interior openings of the door enclosure. It extends the full arc of the openings so that moisture is wiped into the grating by squeegee action of rubber weather stripping at the bottom

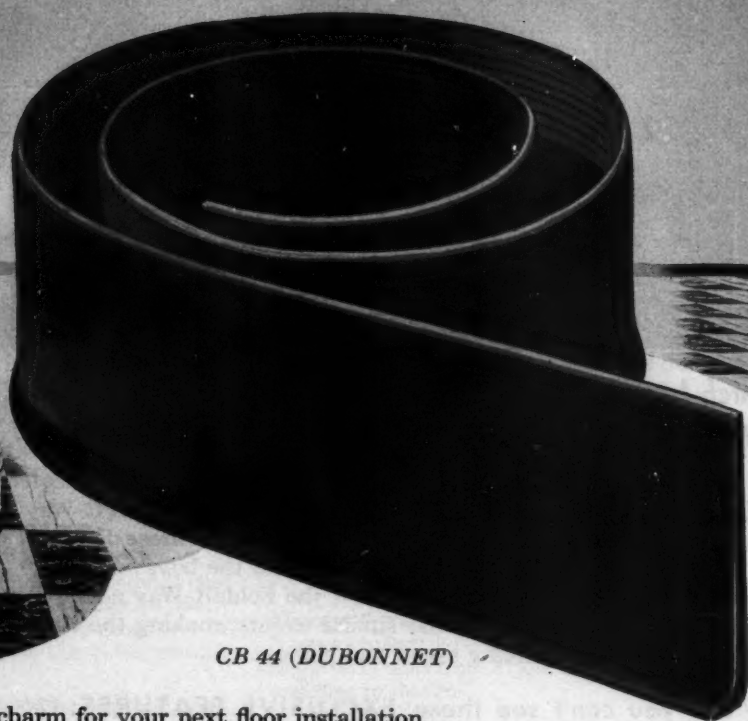
(Continued on page 210)

It's Exciting . . . Different . . . and made by Fremont

VINYL PLASTIC COVE BASE TRIM

in

Smart Colors!



CB 44 (DUBONNET)

Here's added color charm for your next floor installation. Fremont continuous length Cove Base now comes in permanent colors that never need refinishing,—nothing to chip or peel. Properly adhered on either flat or curved wall surfaces, it gives a low-cost base trim protection from dirt, vermin, water or scuffing. It cleans easily with a damp cloth. For best installation, Fremont Rubber Tile Adhesive is recommended.

Plan your next job with the perfect finish—Fremont Cove Base in color.

NEW COLORS . . . CB 41 (NAVY) . . . CB 42 (LIGHT BLUE) . . . CB 43 (CHERRY) . . . CB 44 (DUBONNET) . . . CB 45 (SEA GREEN) . . . CB 46 (FOREST) . . . CB 47 (CHOCOLATE) . . . CB 48 (SMOKY GRAY) . . . CB 40 (Ebony) also available.



Foam Rubber



Plastics

fremont Rubber Company

309 McPherson Highway, FREMONT, OHIO

Please send me the new brochure on Cove Base in colors:

NAME _____

FIRM NAME _____

STREET ADDRESS _____

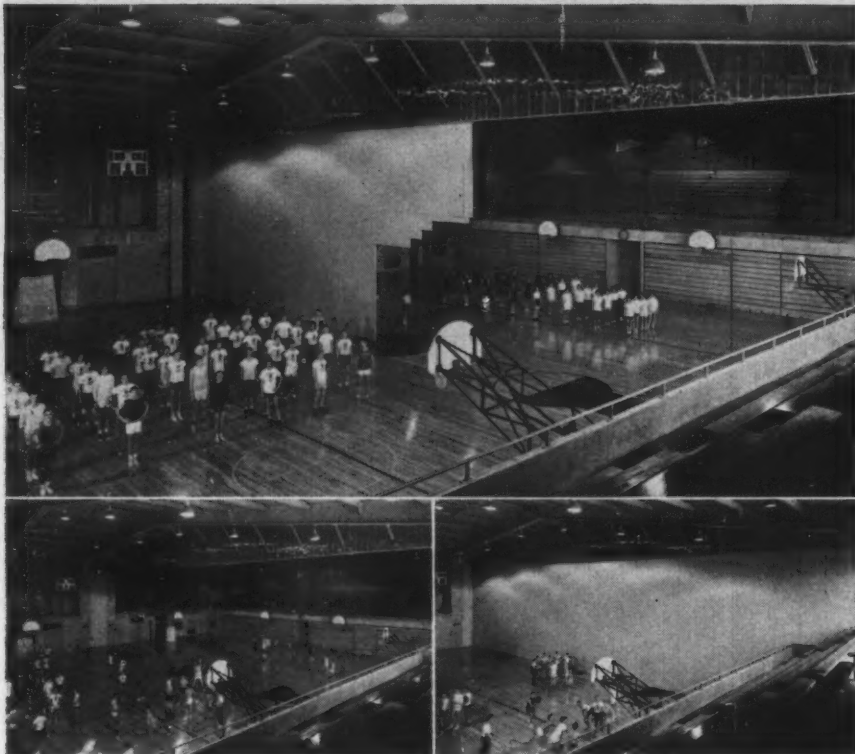
CITY _____ STATE _____

Sponge Rubber
Rug Cushion



Vinyl Plastic
Cove Base

Take a tip from Hinsdale High!



Stretch both space and appropriation with FoldeR-Way® Automatic FOLDING PARTITIONS by Richards-Wilcox

In these photographs taken at Hinsdale Community High School, Hinsdale, Ill., you can readily see how Richards-Wilcox FoldeR-Way folding partitions provide greatest flexibility to given areas of space. You can see how the partitions close to isolate the boys' and girls' gym classes from each other. Also, how the FoldeR-Way partition opens for conference games, and similar events, making the complete gym one vast playing arena and gallery.

But you can't see these EXCLUSIVE FEATURES:

1. **Fully Automatic.** All folding, unfolding, locking, unlocking, and sound-proofing operations are accomplished by the electric operator and its auxiliary mechanism. You merely turn the switch key—R-W does the rest.
2. **Positive, Silent Action Roller Chain Drive.** Will not slip, stretch, or break.
3. **Friction-Proof Track.** Ball-bearing hanger wheels are machined to provide a line contact with the $\frac{3}{8}$ " round cold-rolled steel bar runways of the track, assuring minimum friction and silent operation.
4. **Gymnasium Doors Are Full Three Inches Thick Over Entire Area.** This provides flush surface similar to a solid wall. Eliminates protruding butt-hinges in players' contact zone below seven foot level.
5. **Fully Automatic Floor Seals.** Self-adjusting to uneven spots in floor. No levers or manual effort required to operate.

For further information about R-W FoldeR-Way Automatic Folding Partitions, write, phone or wire our nearest office.

See an R-W FoldeR-Way Automatic Partition in operation at any of the Schools in the partial list at right, or write for address of installation nearest you:

Kent State University, Kent, Ohio—Opening: 114' x 20'
Hinsdale Community High School, Hinsdale, Ill.—Opening: 127' x 28'
Arvin High School, Arvin, California—Opening: 143' x 28'
Kinkaid School Gymnasium, Houston, Texas—Opening: 71' x 21'
High School, Brookline, Mass.—2 Openings: 100' x 20' and 130' x 20'
Banks School, Bay City, Michigan—Opening: 50' x 18'



Richards-Wilcox Mfg. Co.
A HANGER FOR ANY DOOR THAT SLIDES
AURORA, ILLINOIS, U. S. A. + Branches in all principal cities

Architectural Engineering

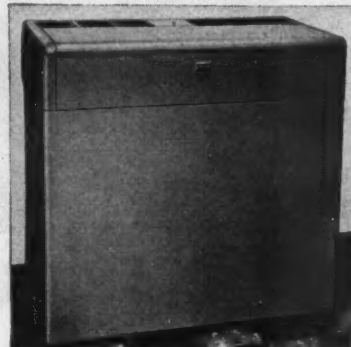
PRODUCTS

(Continued from page 208)

of the revolving door wings. The drain is made with a heavy cast iron body, coated for protection against corrosion. The exposed portion of the grate has a non-skid carborundum top to minimize injury by slipping. The dimensions are said to be such that all sizes of revolving doors can be accommodated. J. A. Zurn Mfg. Co., Erie, Pa.

Heavy Duty Air Conditioner

The new *Philco Air Conditioner, Model 200-GCW*, is a water-cooled, console-type unit designed for use in large rooms, stores, etc., up to 1500 sq ft in floor area. The unit is also easily adaptable for use with ducts to cool different areas of a house.



Compact air conditioner serves up to 1500 sq ft for shops or houses

The air conditioner is mounted in a compact steel cabinet with a tan baked-enamel finish. It measures 39½ in. high, 42¼ in. wide and 22¼ in. deep. A special Temperature Selector control switch is concealed by panel on top of the cabinet, and permits selection of temperatures in the range from 74 to 86 F. The unit combines two 1-HP units with an automatic thermostat control to provide constant and even cooling, dehumidifying, filtering and circulation of the air. A single HP unit may be operated without the other if desired. Direction of the air is controlled by 6 adjustable grills. Philco Corp., Philadelphia 34, Pa.

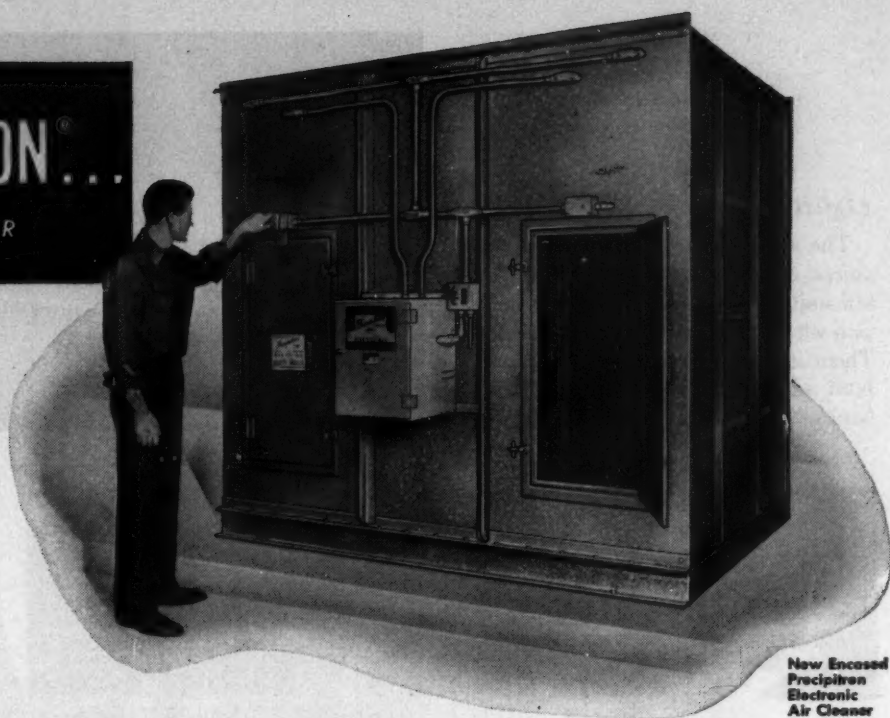
(Continued on page 212)

NOW PRECIPITRON...

THE ELECTRONIC AIR CLEANER

**IS AVAILABLE
AS A COMPLETE
"PACKAGE"**

Saves You



New Encased
Precipitron
Electronic
Air Cleaner

MATERIAL PROCUREMENT • ENGINEERING EXPENSE INSTALLATION EXPENSE • TIME AND MANPOWER

In schools—where central heating and ventilating systems can be used—PRECIPITRON, the Electronic Air Cleaner, provides clean, healthy air for classrooms and auditoriums, free from dirt, dust, bacteria, and pollen. Interior decorations remain as clean and attractive as the day they were completed.

Westinghouse PRECIPITRON has long been used where clean air is a *must*. Its wide acceptance is due to three factors: (1) its design—invented by Westinghouse and developed through years of engineering and application experience; (2) its efficiency—*three times* more efficient than the *best* mechanical air cleaner; (3) its dependability—proved by countless installations.

NOW, Westinghouse announces a new model which incorporates all the features of the standard line, and adds the convenience and money-saving advantages of a factory-designed, factory-matched *encased* unit.

HERE'S WHAT IT MEANS TO YOU:

Material Procurement Reduced. Everything you need is provided... no searching for scarce parts or supplies, or resorting to substitutes... 18-gauge casing and 10-gauge tank of galvanized steel assure rigidity; entering side baffles provide proper air distribution.

Eliminates Layout and Enclosure Design. Complete unit available in capacities from 8,000 to 44,000 cfm comes ready for assembly at the site... flanges punched for duct connections... sealed access doors with safety interlocks are pre-installed

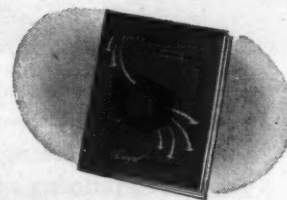
... all parts fit... even the hardware is included!

Masonry Work Reduced or Eliminated. Drain tank for flushing away collected dirt lays into place and unit bolts to it... range of 24 sizes from 8' x 5' x 5' to 8' x 10' x 11' permits matching to the job.

Saves Time and Manpower. Prefabricated parts, factory-matched, save assembly time and assure proper installation... highly skilled labor not required.

Read about these and many other benefits such as accessibility, ease of maintenance, and undivided responsibility. Ask for application data DB 93-820 TODAY, and see for yourself how the PRECIPITRON Encased Unit can fulfill your requirement for clean healthy air supply. Westinghouse Electric Corp., Sturtevant Division, 150 Damon Street, Hyde Park, Boston 36, Mass.

Write for booklet DB 93-820 today!

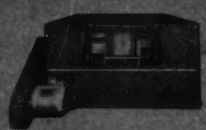


YOU CAN BE SURE...IF IT'S

Westinghouse

PUTTING *Air* TO WORK

J-80210C



AIR HANDLING UNITS



AIR COOLERS



HEATING AND COOLING COILS



VENTILATING FANS



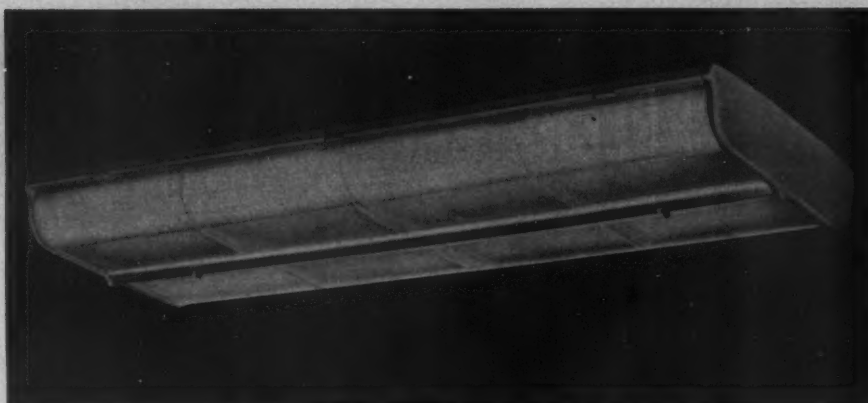
AIR BLENDERS

PRODUCTS

(Continued from page 210)

Lighting Units

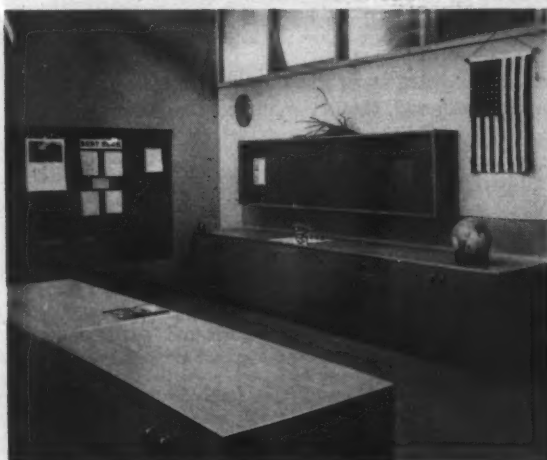
The surface-attached *Holoflux Luminaires, Series 9300*, are designed as shallow units to simulate recessed construction without the expense of roughing-in. There is said to be brightness control both across and along the axis of the lamps. The fixtures can house 2 or 4



Fluorescent fixtures feature shallow construction to simulate recessed look



STANDARD Timing Governs Orderly Schedules in the Nob Hill Schools



● Schedules proceed smoothly in the Nob Hill and H. M. Gilbert Elementary Schools in Yakima, Washington. This is due to the careful planning of architects John W. Maloney and John H. Whitney, A.I.A., who specified Standard program timing and fire alarm systems. To see why Standard systems were the choice, write for bulletins, or consult our complete open specifications in Sweet's Architectural File.



Master-Program Controller Type SYN-5



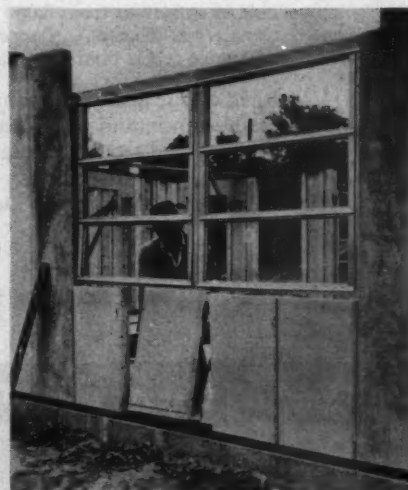
THE Standard Electric Time Co.
81 Logan Street Springfield 2, Massachusetts

fluorescent lamps of either the conventional bipin or the new instant-start single pin type, in both 4 and 8 ft sizes. Light is diffused by a patented "Controlens."

The units are 4½ in. deep and have snap-shut hinged doors. A small percentage of the light is directed upward to illuminate the ceiling. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.

Masonry Wall Panels

Bildrok structural wall panels, made from a perlite aggregate with Portland cement as a binder, are available in a wide variety of shapes, sizes and designs for residential and commercial use. The panels are said to be fireproof, rotproof and termite proof. Ease and speed of wall erection is claimed to be a special



Light-weight structural masonry panels are easily and speedily erected

(Continued on page 214)



*Stainless
requires careful
selection, too!*

Before you marry your product to stainless steel, make certain that you've chosen the right analysis. *Stainless* is a broad term applied to a whole host of steels, each with its own characteristics. And to get the most out of stainless you must select with care.

That's why Crucible, a pioneer in the development of this specialty, offers you the services of a staff of metallurgists, well qualified by experience with hundreds of applications, to help you put stainless to work properly.

For more than half a century, Crucible has been the leader in the specialty steel field. There is no substitute for Crucible background — take full advantage of it. When you think of stainless — call in Crucible. CRUCIBLE STEEL COMPANY OF AMERICA, Chrysler Building, New York 17, N. Y.

CRUCIBLE

first name in special purpose steels

51 years of *Fine* steelmaking

STAINLESS STEELS

STAINLESS • HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE STEELS

PRODUCTS

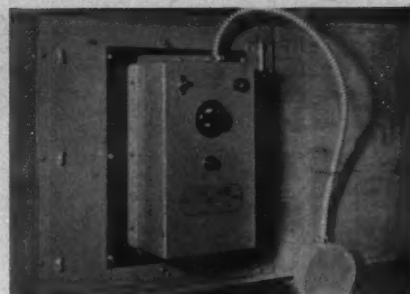
(Continued from page 212)

feature of the panels. They can be cut, sawed, nailed or drilled with ordinary woodworking tools.

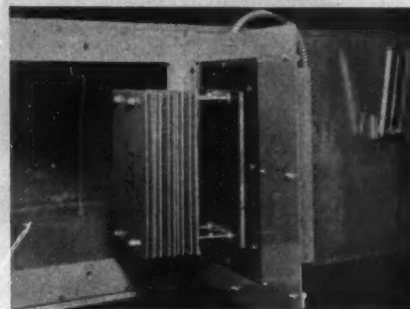
Other features claimed for the panels include flexibility in design, low maintenance cost, and superior insulating and paint adherence qualities. American Bildrock Co., 2001 W. Pershing Rd., Chicago, Ill.

Air Purifying Unit

The *Vita-Aire* unit employs an ultra-violet field for the purification of air in heating, ventilation or air conditioning systems. The ultra-violet field is said to oxidize all organic matters such as smoke, gases and odors, and to reduce bacteria content of air passing through it. The unit is reported to be low in initial cost, and economical to operate. It is designed for installation in any air duct or air conditioning unit. Portable units are available to be used where there are no ducts. The portable unit



Air purifying unit mounts in standard ducts. Above: closed. Below: open



may be placed in a convenient location and plugged into any 110 AC current outlet. Vita Aire Div., Hydro Aire Corp., Waukesha, Wis.

Cove Base Trim

• A new all-purpose rubber baseboard, *Sani-Base*, is said to be quickly and easily installed wherever wood molding is used. Claimed to be neat, durable, sanitary, easily cleaned and vermin proof, the trim is removable for use in another location. The base trim is made in strips of pure rubber, $\frac{3}{4}$ by $\frac{3}{4}$ in. core, and is available in lots of 20 ft lengths and in a variety of colors. Colors are claimed permanent and unaffected by scrubbing and rubbing. Cass Products Co., 6127 N. Cicero Ave., Chicago 30, Ill.

• *Fremont Cove Base*, a Vinyl Plastic cove base trim is available in 4 in. heights and 120 ft continuous rolls for application to either flat or curved surfaces. No painting or polishing is required, it is said, because of a high gloss finish which also affords easy cleaning. Nine colors are available. Protection against dirt, moisture and vermin is claimed if the base is properly adhered. It may be applied to hard floor coverings including rubber and asphalt tile, linoleum, plastic floor and wall tile. Fremont Rubber Co., Fremont, Ohio.

(Continued on page 216)

For day in, day out
DEPENDABILITY
you can't beat a



GOVERNNAIR
COMPLETELY PACKAGED
AIR CONDITIONER

PAT. NO. 2,297,928

Name your job . . . any air conditioning job requiring from 3 to 50 tons . . . and you'll find that you can't beat a Governair system for day in, day out dependability.

Governair Packaged Air Conditioners are designed to

operate at peak efficiency—with all parts precision-matched to work together. And they're built to give years and years of low-cost trouble-free service.

Choose Governair . . . and you choose the best!



AIR CONDITIONERS



EVAPORATIVE CONDENSERS



COOLING TOWERS



UNIT COOLERS



BLAST COILS FOR HEATING AND COOLING

GOVERNNAIR



Look how the strong
welded mesh of

Pittsburgh Steeltex

Floor Lath

assumes its proper
position in a
concrete slab

You can readily see why a slab poured over Pittsburgh Steeltex Floor Lath means a better, stronger floor. It is properly reinforced with embedded galvanized welded wire mesh and properly cured because moisture is retained by tough waterproof backing. Furthermore, construction costs can be cut since work may continue on the floor below while pouring is in progress. For further good reasons to specify Steeltex, see Sweet's or write for our catalog D.S. 133, Dept. AR, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

WHERRY HOUSING AT KEESLER AIR FORCE BASE, BILOXI, MISS.

Sponsored by Russel S. Wilkinson, James E. McGehee, Robert G. Snowden and Max B. Ostner of Memphis, Tenn. Architect: Everett Woods; Contractors: Wilkinson,

Snowden & McGehee. The 2-bedroom house pictured below rents for \$85.00 and is one of 718 units which include duplexes and 2, 3 and 4-bedroom residences.



*Includes contractors' and architect's fee. Exclusive of land.

New 718-unit project provides cool comfort for Air Force families

It is unusual for a low-cost housing development to offer so much in the way of modern beauty, high quality materials and extra features for the comfort and convenience of tenants.

One of the most popular features of this Keesler Housing Project are the Hunter Attic Fans which will keep occupants cool and comfortable on hottest summer nights.



Cool comfort at low cost

The sponsors of Keesler Housing selected Hunter Package Attic Fans because of their dependable performance and low-cost installation. Fan, motor and suction box are all in one unit that requires only a ceiling opening in hallway and 18" clearance in the attic. Four models, ranging from 4750 CFM to 9700 CFM (ratings certified) fit any home size and any climate. Quiet, powerful, dependable, these fans are guaranteed by Hunter—exclusive fan makers since 1886.

◀ Wall switch starts fan and opens automatic shutter to pull in the cool night air and drive out the oven-like heat that accumulates throughout the day. In only a few minutes it's 10 to 20 degrees cooler inside.



Write for 36-page booklet, "How to Cool for Comfort" and complete data.
HUNTER FAN AND VENTILATING COMPANY
396 S. Front St., Memphis 2, Tenn.

HUNTER *Package Attic Fans*

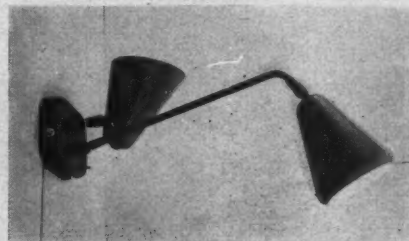
Architectural Engineering

PRODUCTS

(Continued from page 214)

Hospital Bed Lamp

The recently developed two-lamp (indirect and night light) *Hospitality Light* is said to be an innovation in lighting patients' rooms. One master wall outlet consolidating all electrical facilities in a hospital room is said to reduce wiring costs, to provide flexible lighting and to be readily accessible for maintenance and service. Savings in cost are claimed possible by elimination of extra lights, switches and outlets. A patient-operated pull switch and cord are attached to the bed linen.



Hospital light combines several fixtures

The general indirect light has a swivel arm and can be tilted down for medical examination, etc. Designed to provide low-level illumination behind the patient's bed, a night light is controlled by a toggle switch in the housing of the *Hospitality Light*. Other electrical appliances such as a radio may be plugged into an additional outlet on the lamp. The lamp is plug-in type. The master switch has a four-slot, heavy duty receptacle, and the light itself has a four-prong plug. If any of the wiring devices require repair, says the manufacturer, a spare plug-in unit may be quickly installed for use while repairs are made in a shop instead of the hospital room. The terminal block system within the *Hospitality Light* is said to allow a variety of circuit arrangements for the control of any of the appliances at will, as well as to allow two-circuit operation in the master outlet. Thus lighting will be available in one or several of the lighting units if a fuse blows in the other circuit. Kurt Versen Co., Englewood, N. J.

(Continued on page 218)



FACTORIES, hotels, hospitals and other structures and buildings erected now will require much less maintenance in years to come — if effective *rust control* with RUST-OLEUM is written into the original specifications.

Protection against costly rust is particularly important in structural beams and columns, metal deck ceilings, crawl spaces, metal sash, etc., where manufacturing processes, industrial fumes, and condensation due to ventilation difficulties increases serious rust damage that threatens the structural strength of the metal.

RUST-OLEUM effectively retards rust because its tough, pliable, moisture-resisting film combats the causes of rust — even under many of the most difficult conditions.

25 years of superior service to industry is proof that RUST-OLEUM gives excellent results in protection of rustable metal. RUST-OLEUM is highly resistant to water,

dampness, brine, heat, industrial fumes, general weathering, and many other rust producing conditions.

In drawing up specifications that involve the use of rustable metal, consider the extra protection that RUST-OLEUM provides. Specify RUST-OLEUM as the shop coat on all new steel. Remember, the first primer coats are the foundation on which your plan for future protection must stand. It's a profitable, *worthwhile* investment for your client!

When you deal with rust problems, we'll gladly help you with specific recommendations. See the complete RUST-OLEUM catalog in Sweets Architectural File, or write for a copy. RUST-OLEUM can be obtained promptly from Industrial Distributors' stocks in principal cities of the United States and Canada.

RUST-OLEUM CORPORATION

2512 Oakton Street, Evanston, Illinois



"Rigid Economy, Mon!"

RUST-OLEUM

Stops Rust

Beautiful AS IT PROTECTS

Available in many
COLORS,
aluminum and white.



Low MAINTENANCE... High PERFORMANCE... for Institutional Service



Titusville Scotch Marine Boiler serving new Science Building at Centenary College, Shreveport, La.



Centenary College's new Science Building. Associate Architects: Stone & Pitts, Beaumont, Texas, and Peyton & Bosworth, Shreveport, La.



TITUSVILLE *Scotch Marine* BOILERS

Quick steaming and high efficiencies make Titusville Scotch Marine Boilers a favorite choice for schools and institutions. The last word in boiler economy and durability is "Scotch", as produced by Titusville. Write for literature, stating your service needs.

THE TITUSVILLE IRON WORKS COMPANY

a division of

Sw truthers
ells

TITUSVILLE, PENNA.

Representatives in Principal Cities

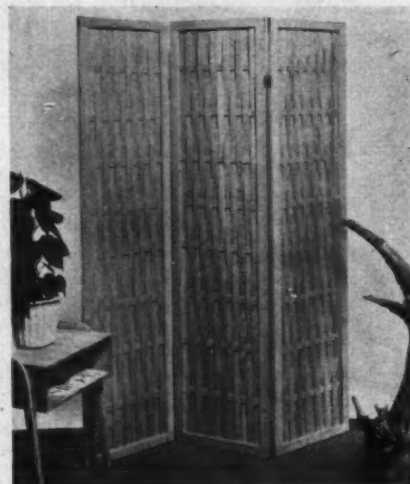
Architectural Engineering

PRODUCTS

(Continued from page 216)

Woven Panel Screen

Designed by Carter Morningstar, a Woven Oak Panel Screen has many uses such as partition, door, shutter. It is claimed to give draft-free protection without loss of ventilation as well as to harmonize with many types of decor. The screen is constructed of full grain



Woven oak screen can double as partition, doors, shutters, outdoor windbreak

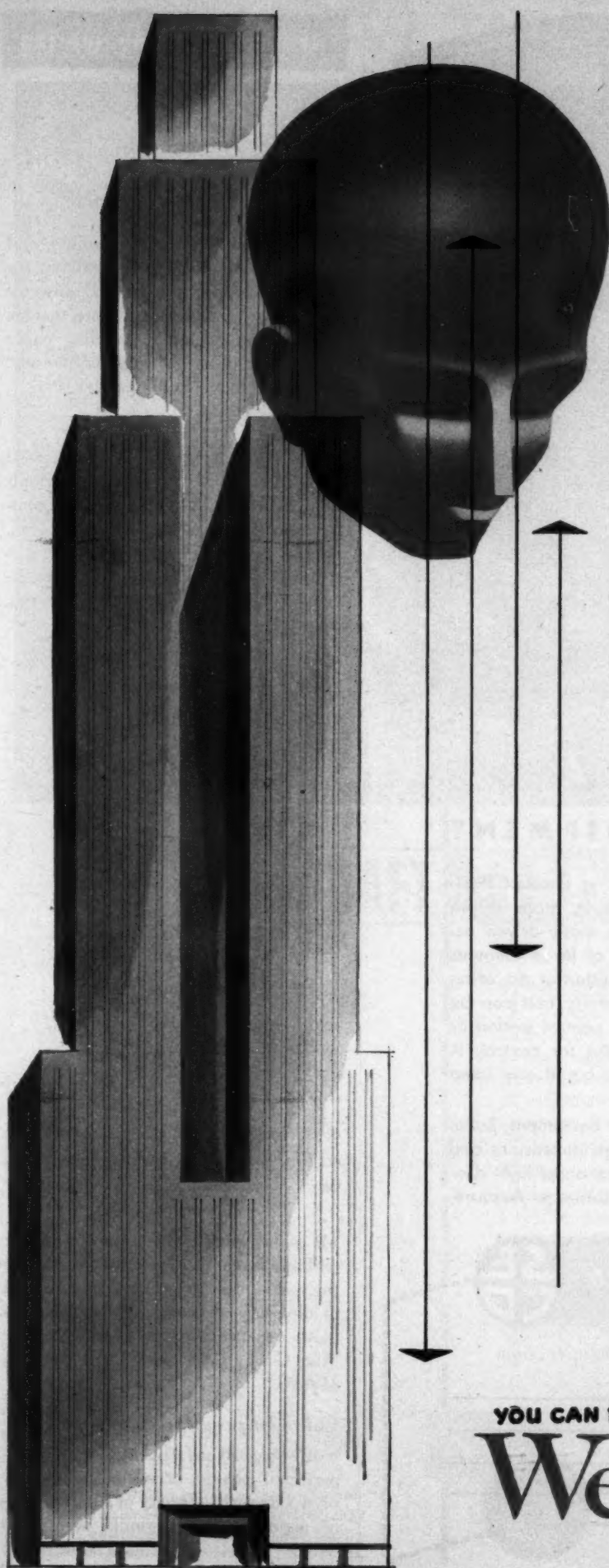
natural oak, kiln dried, with a natural finish. The handwoven strips are set permanently into solid oak frame. Panels are connected by double acting folding hinges. Panel size is 5 ft 8 in. high by 16 in. wide, and weighs 8 lb per panel. Viking Woodcrafters, Inc., 241 East 44th St., New York 17, N. Y.

Acoustical Tile

A new low-cost fiberboard acoustical material, called *Perforated Temlok Tile*, has been announced as a companion product to Armstrong's previous line. The new tile will be available in 16 by 16 by 1/2 in. size, with perforations arranged in a 12 in. pattern. The units are factory finished in a warm white color.

A feature of the new tiles is a "Lok-Bevel" joint, which is said to be designed for quick, easy and inexpensive installation. The joint has a wide flange

(Continued on page 220)



**ONLY SELECTOMATIC
TAKES YOU FROM
FLOOR TO FLOOR SO FAST
... SO SMOOTHLY!**

Maybe you think scared rabbits have fast "get-away" . . . that feather-landings are tops for softness. And birds make more accurate landings than anybody. But, you haven't seen anything until you ride a new Selectomatic elevator equipped with Synchro-Glide—the fabulous Westinghouse automatic landing control!

Selectomatic "masterminds" the over-all control of the elevator system. Its ingenious "electrical brain" reduces waiting time to a minimum. And Synchro-Glide cuts floor-to-floor travel time $1\frac{1}{2}$ seconds per stop per car. These are the facts!

But—to get a clear picture of how much these facts mean to you, you must see Selectomatic in action . . . enjoy its smooth, fast ride yourself.

So, if you are in any way responsible for planning elevator investments, *test ride Selectomatic before you decide!* Write today for the names of nearby Selectomatic installations you can "test ride."

Westinghouse Electric Corp., Elevator Division, Dept. D-1, Jersey City, N. J.

For years, Westinghouse engineering developments have stimulated the vertical transportation industry to strive for ever higher standards of quality and efficiency. In every phase of vertical transportation—equipment, maintenance, and service—Westinghouse has been the vanguard for progress. So, whatever your traffic problems may be—there's a Westinghouse Integrated Vertical Transportation System to solve them completely. Look ahead with the leader . . .

YOU CAN BE SURE... IF IT'S

Westinghouse

J-98605



FOR MAXIMUM
FLEXIBILITY
IN LIGHTING CONTROL
SPECIFY
AND BUY

POWERSTAT *Motor Driven* LIGHT DIMMING EQUIPMENT

For a versatile lighting control system providing unusual flexibility with economy, investigate then invest in motor-driven POWERSTAT Light Dimming Equipment. These motor-driven assemblies offer effortless, "finger-tip" dimming of large amounts of power by merely touching a "raise-lower" button or actuating a miniature Positioner selector station. The dimmer unit can be installed in any out-of-the-way space and the control station or stations placed at the location most convenient for control. A complete line is available to dim, brighten or blend any lamp load from 1000 to 30,000 watts.

Learn more about POWERSTAT Light Dimming Equipment. Bulletin 749 features application information, ratings, dimensions and wiring diagrams to aid in the intelligent application of light dimming equipment to any job. Write 9061, Demers Avenue, Bristol, Conn.

THE SUPERIOR ELECTRIC CO.
BRISTOL, CONNECTICUT



☐ Please send Bulletin 749.

NAME _____

COMPANY _____

CO. ADDRESS _____

CITY _____ ZONE _____ STATE _____

Architectural Engineering

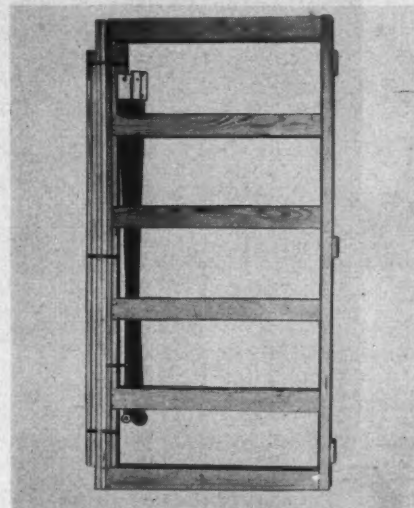
PRODUCTS

(Continued from page 218)

for concealed stapling and nailing, and a tongue and groove which allows for expansion and contraction and stops air passage through the joint. Since there is no "breathing," use of building paper with the tiles is said to be unnecessary. Armstrong Cork Co., Lancaster, Pa.

Packaged Door Unit

The Door-Flo Ready Unit, a recessed door unit, is fabricated assembled for easy, rapid installation, says the manufacturer, and is adaptable to 1 $\frac{3}{8}$ in. or 1 $\frac{1}{4}$ in. doors. Use of the door is claimed to eliminate expense and inconvenience in constructing a wall section.



Scissor-type sliding door unit features ease of installation, complete packaging

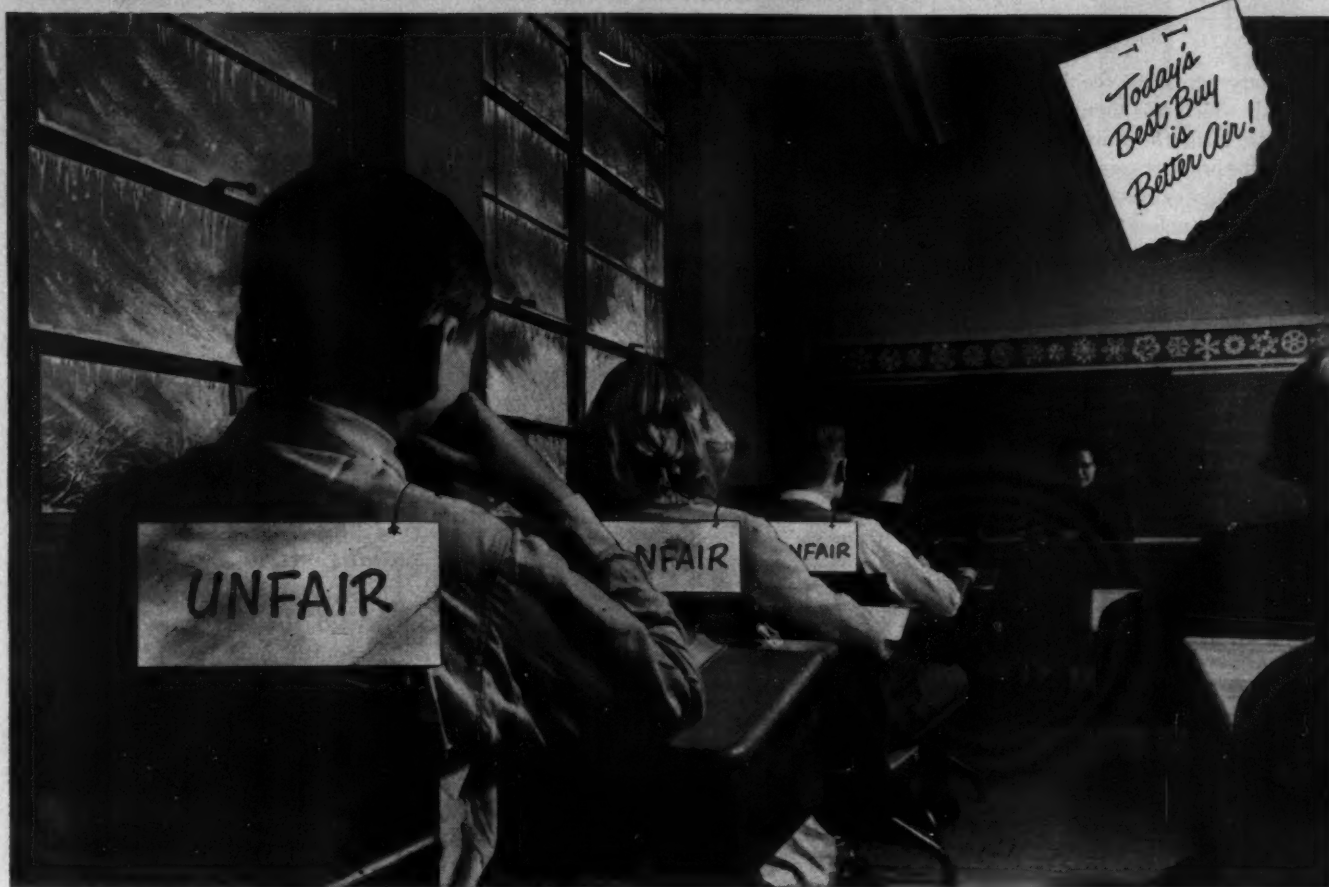
All essential hardware comes with the unit and is removable without disrupting the wall or door trim. Each piece is said to obviate slowed-down action as well as to enhance the door's glide. Dorflo Mfg. Corp., 1904 First Ave., Hibbing, Minn.

Color Impregnated Wood

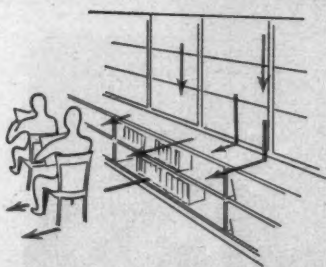
All-Color Wood features a recently-perfected process of impregnating raw plywoods with a variety of standard color pigments. The formula is said to

(Continued on page 222)

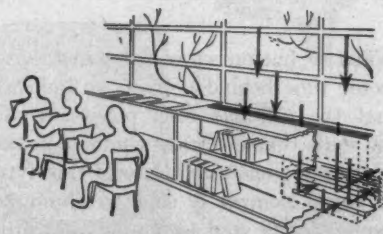
THEY KNOW THIS SUBJECT COLD!



but **DRAFT STOP** gets the honors



IMPROPERLY PLANNED ventilation! See how drafts sweep into the classroom. A threat to health and good study habits, uneven temperatures are a constant problem.

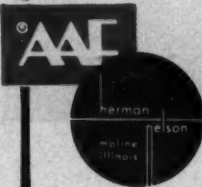


PROPERLY PLANNED ventilation with the new Herman Nelson DRAFT|STOP System traps drafts. Controlled temperature and plenty of fresh air is assured for modern classrooms.

THE SUBJECT of cold is well known to students seated next to windows where there are chilling down-drafts. Larger window areas used in modern school construction make this section of the room a "coat zone". Chilled students with health endangered can't be expected to concentrate on study. But why put up with drafts? There is an easy answer. DRAFT|STOP introduces fresh air, warms it properly and traps drafts before they start.

New DRAFT|STOP, a development offered exclusively by Herman Nelson, is a system that captures drafts at the source. Fresh air and automatically controlled temperatures enable pupils to concentrate on learning. Uniform temperatures throughout the room result in equal opportunity for good study habits. No device nor design can take the place of the new DRAFT|STOP System . . . it gets the honors.

In your plans for new schools or new additions be certain DRAFT|STOP is specified. It's the modern method for adequate ventilation without drafts. Send for our illustrated booklet available upon request to Dept. AR-6, address below.



HERMAN NELSON

Division of AMERICAN AIR FILTER COMPANY, INC.

MOLINE, ILLINOIS

PRODUCTS

(Continued from page 220)

completely permeate the layers of the plywood, which are then laminated together to form the finished substance. Uses for the product are expected to range from small accessories and home furnishings to wall paneling.

A new firm, the U.S. All Color Wood, Inc., has recently been formed for the general aims of selling and distributing

the basic materials involved in the new process. Plans call for the immediate sale of the colored wood throughout the U. S. and in countries abroad. U.S. All Color Wood, Inc., 280 Madison Ave., New York 16, N. Y.

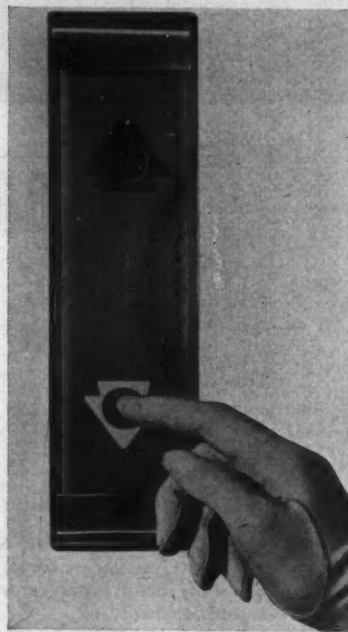
Safety Wall Outlet

No-Shok Duplex Receptacle is said to insure safety wherever installed, minimize fire hazards and furnish additional safety when used with electrical appliances. To make a connection with a lamp or appliance, plug prongs of the

appliance are inserted into a built-in rotary cap in the receptacle. The plug is then turned to the right and pushed in and the connection is completed. When the plug is removed, the rotary cap springs back into its original position and the outlet is thus automatically closed when not in use. The manufacturers claim that the danger of accidents to children by inserting foreign matter into outlets, etc., is eliminated and that current-carrying parts are clean and shockproof at all times. The heavy duty terminals, which are said to be simply and easily installed, are composed of thick Bakelite. These outlets were used in the houses at Park Forest, Ill. Shown in *ARCHITECTURAL RECORD*, May, 1951, Page 94. Bell Electric Co., 1844 W. 21st St., Chicago 8, Ill.

New Elevator Signal Control

Electronic Signal Controls, formerly limited to high-speed elevators traveling at 500 fpm or more, are now available for lower speed installations. The electronic touch-buttons cannot be jammed, and are also said to be tamper-proof.



Elevator signal control is tamper-proof

When the button is touched, a small electronic tube behind it glows to indicate that the call has been registered. At the same time electrical contacts in the selector are energized. Use of this type of signal control is said to eliminate moving parts, and to simplify elevator control. Otis Elevator Co., 260 11th Ave., New York 1, N. Y.

(Continued on page 224)





FIREMEN EVERY 10 FEET

SOMETHING FOR NOTHING...
Automatic sprinklers *discover and stop FIRE*. For property owners who do not care to use their own capital to pay for them, insurance savings may be used to pay for GLOBE Automatic Sprinklers over a period of years.

GLOBE AUTOMATIC SPRINKLER CO.
NEW YORK... CHICAGO... PHILADELPHIA
Offices in nearly all principal cities

THEY PAY FOR THEMSELVES

MASTROL SYSTEM
for Forced Hot Water Heating

OUTDOOR
MASTER CONTROL

INDOOR
SUB-MASTER REGULATOR

TO CONTROL VALVE

COMPRESSED AIR SUPPLY

AIR FILTER

SHIELD FOR OUTDOOR CONTROL BULB

PNEUMATIC CONTROLS

3-Way FLOWRITE Valve

FLOWRITE Diaphragm Valve

Pneumatic Switches

ACCRIITEM REGULATOR
Compressed Air or Water Operated

FLOWRITE Valve

METAFLOW Valve
Available Packless

Series 100 Pneumatic Indicating Regulator

Pneumatic

Right: Static Pressure Regulator

Left: Series 100 Recording Regulator

Self-Operating
Thermostatic Water Mixers

No. 11 Self-Operating Regulators

PNEUMATIC CONTROLS

Thermostat

Hygrostat

Radiator Valves

Packless Valves Available

AIRSTREAM Thermostat

POWERSTROKE
Damper Motor

POWERS

TEMPERATURE and HUMIDITY CONTROL

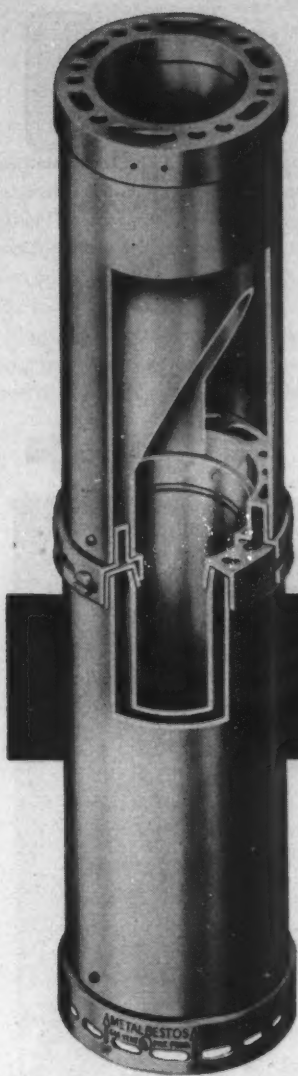
For Heating and Air Conditioning Systems
Industrial Processes
Water Heaters • Heat Exchangers
Jacket Water Cooling
All Types of Baths
Hospital Hydrotherapy

Most of your control problems can be solved successfully with the aid of a POWERS engineer and the proper application of some of our modern products. Why not profit from our 60 years of experience? There's no obligation. Phone or write our nearest office.

THE POWERS REGULATOR CO.

Established 1891 • Offices in Over 50 Cities • See Your Phone Book

CHICAGO 14, ILLINOIS • 2720 Greenview Avenue
NEW YORK 17, NEW YORK • 231 East 46th Street
LOS ANGELES 5, CALIF. • 1808 West 8th Street
TORONTO, ONTARIO • 195 Spadina Avenue
MEXICO, D. F. • Edificio "La Nacional" 601



For
**DURABLE,
SAFE VENTING**
specify

QC METALBESTOS GAS VENT

Lasting Construction

Permanent protection against the corrosive action of flue gases, condensates and the weather is provided by QC Metalbestos. Deterioration due to corrosion and cracking is eliminated when you specify this sturdy, all-aluminum, double wall gas vent pipe.

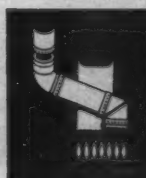
Dependable Operation

Metalbestos' unique double wall construction and leak-proof joints give complete protection against fumes or fire hazards. The aluminum inner pipe heats up quickly for efficient venting while the built-in air space minimizes heat loss and insulates the outer pipe against excessive heat. Precision formed QC Couplers and adjustable fittings permit rapid assembly and assure trouble-free, efficient venting.

Independent laboratory tests prove that Metalbestos keeps surrounding walls cooler than any other Type B gas vent listed by Underwriters' Laboratories, Inc.

New Venting Manual Now Available!

Published in the interests of better venting, this booklet, "Venting of Gas Appliances", contains basic rules and other helpful data concerning correct venting practices. For your free copy, just write to Dept. L



METALBESTOS DIVISION

WILLIAM WALLACE COMPANY • BELMONT, CALIF.

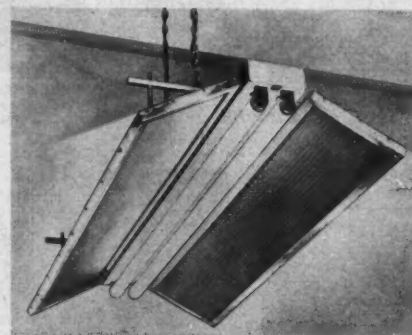
Architectural Engineering

PRODUCTS

(Continued from page 222)

Heat-Light Fixture

Directoray, suspended heater and lighting fixture, combines fluorescent lighting and infra red radiant heating in one unit. It is said to be especially suitable for hospitals, factories, offices, processing areas, etc., where specific temperatures or spot heating are required. The units may be used singly or placed in a series. In addition to convenience, Directoray is claimed to be economical in installation and maintenance.



Infra-red heat panels are combined with new fluorescent ceiling fixture

Flanking the lighting unit, two glass panels — heaters — form a reflector along the fluorescent strip. Aluminum grids function as the heating units in the panels which are made of tempered, unbreakable glass, suspended in an aluminum frame, and measure 9 by 48 in. Control of heat may be by either thermostat or global type control, or manual switch.

The lighting fixture employs a standard 48 in. fluorescent drop fixture — either single or multiple. The two-panel heating unit is available separately for installation on existing lighting fixtures. Salton Mfg. Co., Inc., 74 Reade St., New York 7, N. Y.

New Size Plastic Sheets

Formica laminated plastics will be available in decorative sheets 48 in. wide and 120 in. long, which is one ft wider and two ft longer than the largest

(Continued on page 226)



Better radiant heating systems start with Bundyweld Tubing

Bundyweld Tubing performs better in your systems, cuts waste, saves time in fabrication, too.

It stands alone, the only tubing double-walled from a single strip, with an exclusive beveled seam-edge. It's copper-brazed through 360° of wall contact into a smoother, stronger, solid-wall tube that spells leakproof, efficient radiant heating systems right from the start.

Bundyweld comes to you in twenty-foot lengths with

one end expanded if specified. It fabricates quickly, easily at your shop or building site. No kid-glove handling; it's ductile, yet extra-strong. One man easily forms Bundyweld on a simple bending fixture. Just two men quickly position the lightweight, rigid grids.

Check your *Sweet's Architectural File* or write us now for more detailed information. Though defense tubing requirements get first call, we'll do our best to fill your needs. **Bundy Tubing Company, Detroit 14, Michigan.**

Bundyweld® Tubing

DOUBLE-WALLED FROM A SINGLE STRIP

WHY BUNDYWELD IS BETTER TUBING



Bundyweld starts as a single strip of basic metal, coated with a bonding metal. Then it's...



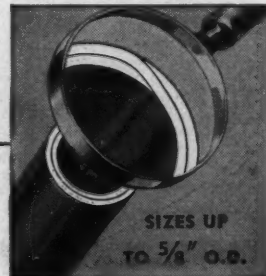
continuously rolled twice around laterally into a tube of uniform thickness, and



passed through a furnace. Bonding metal fuses with basic metal, presto—

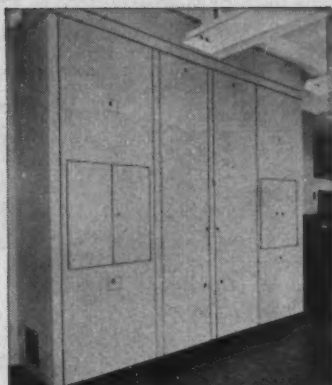


Bundyweld... double-walled and brazed through 360° of wall contact.

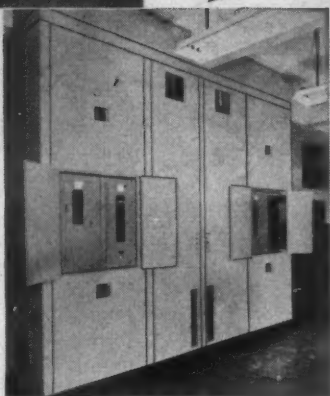


SIZES UP
TO 5/8" O.D.

NOTE the exclusive patented Bundyweld beveled edge, which affords a smoother joint, absence of bead and less chance for any leakage.



Partitions
by the
Mills Company,
Manufacturers
of Movable
Metal Partitions,
Cleveland 10,
Ohio.

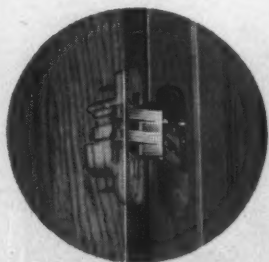


NAVY USES 4 MILES OF PARTITIONS STREAMLINED WITH

SOSS
INVISIBLE
HINGES

The above example is typical of many similar installations, using SOSS INVISIBLE HINGES, in the United States Naval Ordnance Laboratory at White Oak, Maryland . . . one of the most modern and best equipped research and development laboratories in the world. Over 4 miles of Mills movable metal partitions, streamlined with SOSS INVISIBLE HINGES, were used in this project.

You, too, will find "the hinge that hides itself" ideal for use in every type of MODERN building. The SOSS HINGE is the only hinge that eliminates unsightly, protruding hinge butts. Furthermore, it is the ONLY hinge that helps architects meet the exacting demands of modern design for smooth, flush, streamlined surfaces. For FREE Blue Print Catalogue, that gives complete architectural information on the SOSS HINGE, write to:



SOSS MANUFACTURING COMPANY

21769 HOOVER ROAD
DETROIT 13, MICHIGAN

A. I. A. File No. 27-B-1

NEWS *Flash!*



Architectural Engineering

PRODUCTS

(Continued from page 224)

size presently offered. The company announces that production is expected to begin early in 1952. Major advantages of the new size, says the manufacturer, are elimination of joints on surfaces such as large tables, counters, sink tops and wall panels, and greater flexibility and reduction of waste in cutting pieces of desired size from stock sheets. Formica Co., 4633 Spring Grove Ave., Cincinnati, Ohio.

Pipe Insulation

Birpac Fibreglas fitting insulations are said to be very simply installed around trees, ells and 45 deg pipe connections. The insulation is installed by placing one half the fitting around the pipe, then covering it with the matching



New pipe insulation is moulded for many types of standard fittings and joints

half and taping or stapling the two together, thus eliminating extensive bindings or swathings around the pipe. The insulation is said to have a low thermal conductivity as well as neat appearance. Currently *Birpac* is available for standard sizes of pipe from 1/2 to 8 in. thicknesses. Birma Products Corp., 2665 Main St., Buffalo 15, N. Y.

Tape Tacker

A new portable hand tool, similar to a gun-type tacker, has been designed to dispense pressure sensitive tape. A single squeeze of the trigger of the *Trig-A-Tape Attacher* is said to feed, cut off

(Continued on page 228)

Rolling Steel DOORS

Manually, Mechanically, or Power Operated

No other type of door can come close to matching the advantages of a good rolling steel door. For virtually any opening in industrial or commercial buildings, the quick-opening, quick-closing, vertically acting rolling steel door offers more desirable features than any other type. Open or closed, it occupies no usable space inside or outside the building — it rolls up clear of the opening safe from damage . . . its all metal construction assures permanence and a lifetime of trouble-free service, and, most important, it provides maximum protection against intrusion and fire. When you select Mahon Rolling Doors, you can depend on getting the latest developments in doors of this type . . . more compact and more practical operating devices, curtain slats of Aluminum, Stainless Steel, or Galvanized Steel scientifically cleaned, phosphated, and coated with high temperature oven baked rust inhibiting enamel prior to roll-forming. These, and many other built-in features that characterize Mahon Rolling Steel Doors, merit your consideration. See Sweet's Files, or write for Catalog G-50.

T H E R . C . M A H O N C O M P A N Y

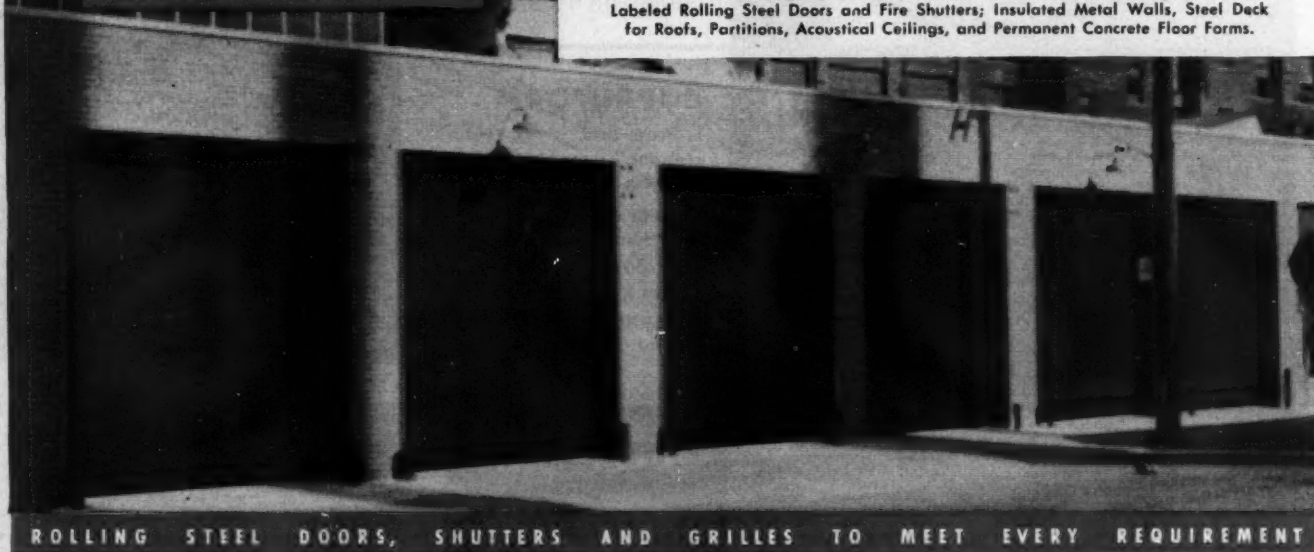
Detroit 34, Michigan • Western Sales Division, Chicago 4, Illinois

Representatives in all Principal Cities

Manufacturers of Rolling Steel Doors, Grilles, and Automatic Closing Underwriters' Labeled Rolling Steel Doors and Fire Shutters; Insulated Metal Walls, Steel Deck for Roofs, Partitions, Acoustical Ceilings, and Permanent Concrete Floor Forms.



**MAHON STANDARD
POWER OPERATOR 920-P**



ROLLING STEEL DOORS, SHUTTERS AND GRILLES TO MEET EVERY REQUIREMENT

Six Mahon Power Operated Rolling Steel Doors installed in truck openings in The Timken-Detroit Axle Company's Plant, Detroit, Michigan.

MAHON

THE ONLY FORM FOR
STEEL JOIST CONCRETE
FLOORS AND ROOFS

Corruform



ECONOMICAL

CORRUFORM

sheets are easily placed. Fasteners are positive for all common joists and beams. Lapping is automatic. No sag or material waste. Concrete is placed and finished by common practice.



SAFE

CORRUFORM

is nearly twice as strong as ordinary steel of equal weight. Tough tempered to spring back under abuse. Provides a secure form for trades and concrete—no side pull on joists, beams, or walls.



CLEAN

CORRUFORM

is true and level. No cleanup necessary on floors below, no unsightly leakage. Bright, decorative corrugated pattern for exposed ceilings. Corruform is available plain, galvanized or vinyl-primed for painting.

SPECIFICATION

Standard weight Corruform with 2 3/16 inch wide, 1/2 inch deep corrugations. Weight .72 lbs. per sq. foot. Guaranteed average strength of 100,000 psi.—single test minimum strength 95,000 psi.

GRANCO STEEL PRODUCTS CO.
(Subsidiary of GRANITE CITY STEEL CO.)
Granite City, Illinois

SEND FOR FREE
AIA FILE TODAY



Architectural Engineering

PRODUCTS

(Continued from page 226)

and attach a strip of white tape. It is claimed to work on any surface, including glass, without marring. The tape which the device dispenses can be written on with pencil, ink, or crayon. The unit is expected to save time and simplify many attaching operations. Trig-A-Tape Corp., 117-02 New York Blvd., Jamaica 5, N. Y.

Iridescent Plastics

Iridescent shell crystals have been incorporated into transparent *Irilite* plastic material for covering various types of panel boards. The material also has found use in table tops, furniture, tiles and floor coverings, and is said to be durable and resistant to fire, alcohol, moisture, etc. Jos. H. Meyer Bros. (Irilite Div.) 411 Fifth Ave., New York 16, N. Y.

Portable Drawing Board

A portable *Bakelite Styrene* plastic drawing board recently developed is extremely lightweight (it is claimed to weigh nearly 75 per cent less than many boards) and space saving. Made of a single piece of molded clear plastic, the

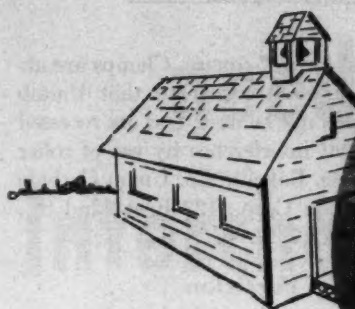


Plastic drawing board for use in field is lightweight, easily transportable

board measures 9 3/4 by 12 1/4 in. and is equipped with tension clamps in recesses on the underneath side to hold 30, 45 and 60 deg triangles in place. Metal straightedges incorporated in the board are retractable and do away with

(Continued on page 230)

Seeley-McCord School, Benton Harbor, Mich.
Maurer & Maurer, South Bend, Ind., Architects
Ray Stevens Co., Kalamazoo, Mich., Contractor



The little old red school house was never like this

READING, WRITING AND 'RITHMETIC are taught in QUIET, well lighted, properly ventilated class rooms at many schools and universities today. The conversion of an ordinary plastered or composition ceiling to an acoustically correct one is a simple matter with Securitee Systems*. This method of mechanical attachments for erecting acoustical tile is easy to install, assures structural permanence and lasting safety by giving proper full length tee support at all times. It also allows easy access to piping or wiring. Securitee Systems* superiority on new installations has been proven by the test of years. Learn more about this low-cost, efficient method—see your local acoustical applicator or write direct.

*T. M. REG. U. S. PAT. OFF.

West Coast Distributor—Cramer Company, 125 Barneveld Ave., San Francisco, Calif.



** Securitee*
SYSTEMS

W. J. HAERTEL & CO.

832 West Eastman Street • Chicago 22, Illinois

More
and
more
People
every day
are installing
Hood Asphalt Tile!

because more and more leading architects are specifying Hood Asphalt Tile. And for good reason! This more economical tile is *adaptable* to any location on or below grade, it's *economical* in cost as well as in installation, its maintenance is easy, and it wears longer! And what's more, this easy-

to-install tile, with its range of decor-blending colors, is backed by the world-famous research of B. F. Goodrich. So, specify Hood Asphalt Tile from now on—your clients will appreciate it! Write for complete information.

When
you
specify
Asphalt . . . specify HOOD!



hotels



offices



cafeterias



schools



department store



furniture store



appliance store

stores of all kinds

YEARS OF BETTER FLOORING FROM YEARS OF BETTER RESEARCH

B.F. Goodrich
Flooring Division

Architectural Engineering

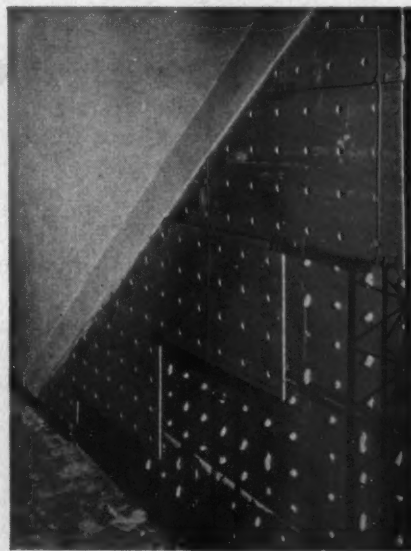
PRODUCTS

(Continued from page 228)

the need for a T-square. Clamps are attached in each corner so that thumb tacks need not be used, and are recessed to prevent interference by use of roller or triangle. Bakelite Co. Union Carbide and Carbon Corp., 122 East 42nd St., New York 17, N. Y.

Fireproof Partition

A new non-load bearing fireproof assembly is claimed to substantially reduce the expense, effort and time needed to erect partitions where 1-hour fire ratings and 45 decibel sound ratings are required. It is said to be especially well suited to construction calling for hollow partitions to conceal conduits, piping or air ducts.

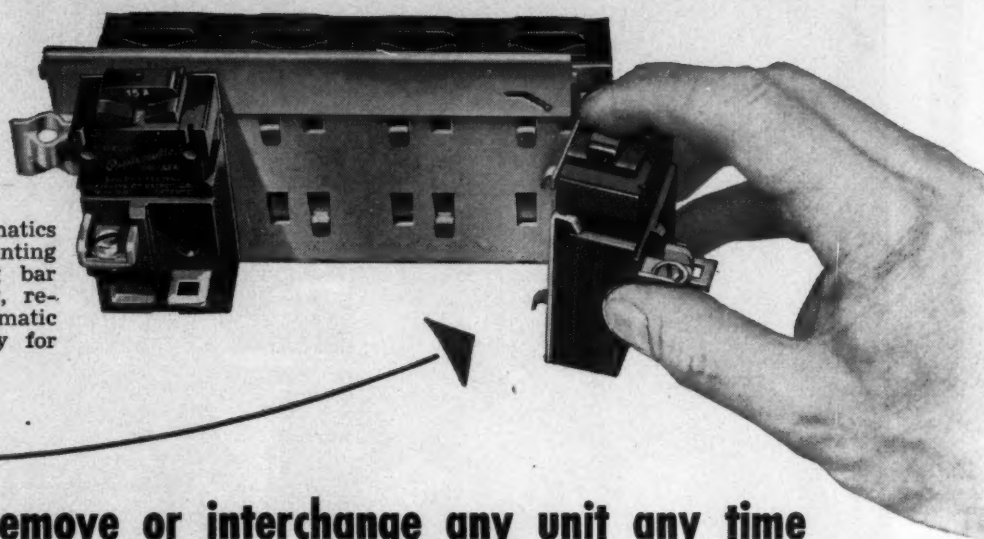


Fireproof, non-load bearing partition is designed to reduce costs of construction

The partition assembly consists of *Trusstee Studs*, perforated *Rocklath Plaster Base* attached with *Brace-Tile Clips*, and plaster. Only a 1/2 in. thickness of plaster, in 2 or 3 coats, is said to be necessary over the Rocklath. The wall finishes to an overall thickness of 4 1/2, 5 1/4, 6 or 8 in., depending on the stud size used. The partition is reportedly strong, durable and light weight. United States Gypsum, 300 W. Adams St., Chicago 6, Ill.

Meet specific panelboard needs faster with interchangeable *Pushmatics*®

To add individual Pushmatics just place unit on mounting rib and push locking bar down. Connect wiring, restore service and Pushmatic Electri-Center is ready for use!



**Add, remove or interchange any unit any time
for any combination of types and ratings!**

NEVER before has a panelboard offered the flexibility of Bulldog Pushmatic Electri-Centers!

Pushmatics are the same size, regardless of rating or type, and are completely interchangeable. Any Pushmatic can be installed at any point on the mounting rib. Pushmatics can be added to the Electri-Center faster, more economically and with less confusion.



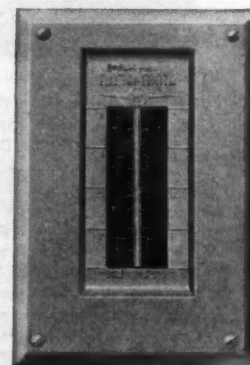
Exclusive push-button switching, too!

PUSH . . . it's on! PUSH . . . it's off! PUSH . . . it's on again if circuit is broken by short or overload. Pushmatic offers the simplest switching available anywhere. No complicated resetting to fuss with . . . no fuses to replace.

And you can meet any load condition with these Pushmatics: Standard Thermal MAGNETIC and Thermal ULTRA-MAGNETIC, the latter available with or without Bulldog's exclusive AMBIENT COMPENSATING FEATURES. Ratings of 15, 20, 30, 40 and 50 amperes, 1 pole, 120 V., or 2 poles, 120-240 V., A.C.

Now investigate Pushmatic Electri-Centers . . . the finest panelboards on the market.

Handsome Bulldog Pushmatic Electri-Centers are available from 2 to 42 circuits. Pictured: 8-circuit Service Equipment Type. Plenty of wiring room even in smallest Electri-Centers for easier installation.



BULLDOG ELECTRIC PRODUCTS COMPANY
DETROIT 32, MICHIGAN • FIELD OFFICES IN ALL PRINCIPAL CITIES
IN CANADA: BULLDOG ELECTRIC PRODUCTS OF CANADA, LTD., TORONTO

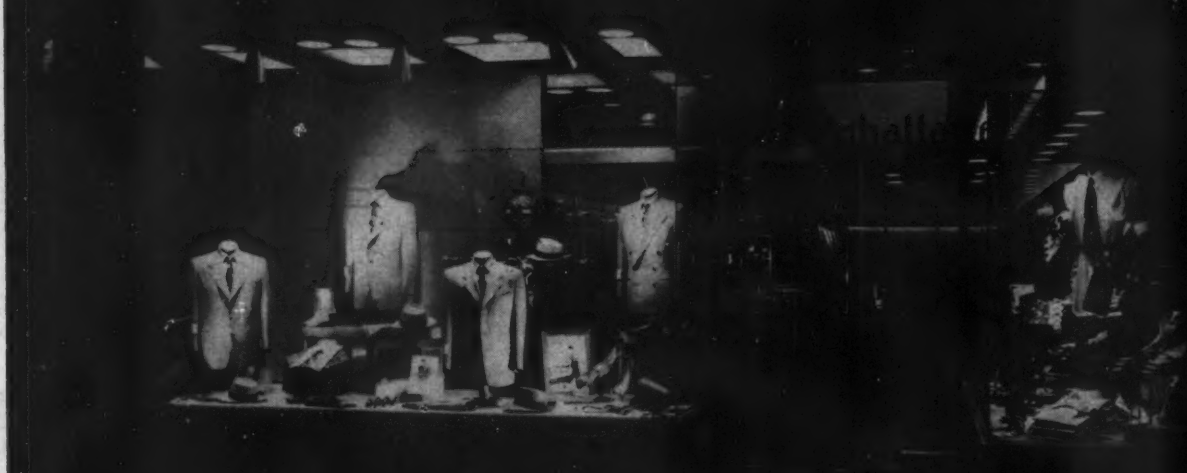


BULLDOG

HEADQUARTERS FOR ELECTRICAL DISTRIBUTION

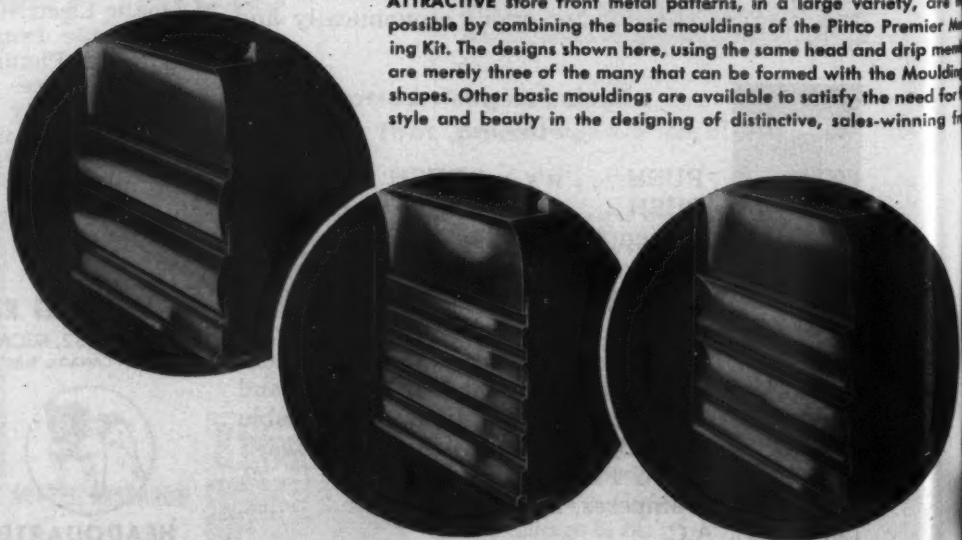
A complete line

of q
stor



IN THIS men's wear store at Cumberland, Maryland, Pittsburgh Products, including Pittco De Luxe Store Front Metal, Gray Suede-Finish Carrara fascia, Polished Plate Glass display windows, and Herculite Doors, were combined to create a sales-inviting open-vision structure. In the modernization, as well as new building, of a wide variety of business establishments all over the country, Pittsburgh Products have achieved the enviable reputation of being the leaders. Architect: Morris Lapidus, New York City.

ATTRACTIVE store front metal patterns, in a large variety, are possible by combining the basic mouldings of the Pittco Premier Moulding Kit. The designs shown here, using the same head and drip mouldings, are merely three of the many that can be formed with the Moulding shapes. Other basic mouldings are available to satisfy the need for style and beauty in the designing of distinctive, sales-winning fronts.



TH
lar
nic
eff
In
lea
Ne

Desi

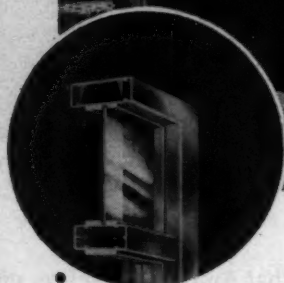
P I

ne

of quality products for store fronts and interiors



THIS FASHIONABLE jewelry shop in Miami Beach, Florida, utilizes a large mirrored wall of Pittsburgh Structural Mirrors, together with niches and ingenious display cases of Pittsburgh Polished Plate Glass, to effect a smart, spacious-looking store interior of immediate appeal. In interiors as well as exteriors, Pittsburgh Products are the choice of leading architects and merchants from coast to coast. Architect: Victor H. Nellenbogen, Miami, Fla.



• **INSTALLATIONS** are faster, easier and less costly with Pittsburgh Doorways. That is because they are precision-built and reach the site as a completely "packaged" unit. All you do is unpack the frame, bolt it into the building opening and hang the sturdy Herculite Doors for whose strength the Pittsburgh Doorway has been especially engineered. Gone are those problems of setting and fitting, details of clearances and many other time and labor-consuming matters that usually increase costs on the job so substantially. Pittsburgh Doorways are available in twelve standard sizes and four free-standing models to fill almost any need. Inset shows a section of the rugged, precision-fabricated frame. It is made of extra-heavy extruded aluminum, highly polished and anodized. And it is heavily reinforced with steel channel and tie rods. Architects: Fuller & Beckett, Atlanta, Ga.

Design it better with Pittsburgh Glass



Your Sweet's Catalog File contains a complete listing and descriptions of Pittsburgh Plate Glass Company products.

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

No wonder the big trend's to AMPLEX SWIVELITES



Swivelite Hood units in Mace Jones Furniture Store, Kansas City, Kansas, supplied by W. T. Foley Electrical Supply Co., Inc.; lighting layout by John Maulsby, Architect.



THE PLAIN FACT is that Amplex Swivelites give the most for your money. They're smartest-designed... and made of aluminum with a permanent satin finish.

Special air-flow ventilation reduces burn-outs. Their exclusive double-ball swivel gives instant, positive, fingertip control. And each basic unit of Amplex Swivelites is interchangeable with every other. Arranging new lighting effects is faster, easier, more economical.

For today's outstanding buy, send for the complete Amplex Swivelite story!

Simply write Amplex Corporation, Dept. D-6,
111 Water Street, Brooklyn 1, New York.

AMPLEX

Sealed-Beam Reflector Lamps, Colorbeam Lamps, Spotlights and Floodlights, Industrial Infra-Red Heat Lamps, Vibration and Rough Service Lamps, Street Lighting Lamps, Traffic Signal Lamps, Incandescent Lamps, Fluorescent Tubes, Display Accessories.

Architectural Engineering

LITERATURE

(Continued from page 196)

Baseboard Heaters

Fedders Baseboard Radiation. Brochure describes features of a new hot water baseboard heating unit. The component parts and operating principles are also covered, along with specifications and capacity charts. A method of estimating a layout is presented, with accompanying diagram and charts. Details show installation and roughing-in dimensions for flush or recess mounting of the units. (The brochure was published as an advertising insert in the May issue of ARCHITECTURAL RECORD. Reprints are available.) 12 pp., illus. Fedders-Quigan Corp., Buffalo 7, N. Y.*

Plywood Built-Ins

A Portfolio of Architectural Designs for Plywood Built-Ins. Presents the winning designs of the 1951 NAHB-Forum competition. The portfolio contains a great number of drawings of indoor and outdoor built-ins, ranging from living room storage walls to free-standing outdoor storage fences. Information is also included on planned storage and grade use of plywood for various type built-ins and other construction. 16 pp., illus. Douglas Fir Plywood Assn., Tacoma 2, Wash.*

Steel School Buildings

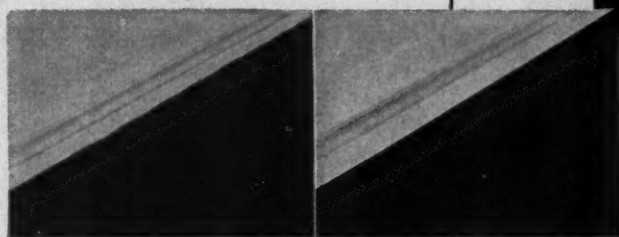
How To Give Students and Budgets a Break. Folder describes and discusses features of one-floor all-steel school buildings made of pre-finished, structural supporting steel panels. A typical plan and photographs of actual installations are included. 4 pp., illus. Armco Drainage & Metal Products, Inc., General Offices, Middletown, Ohio.*

Aluminum Paints

2 Great Heat Resisting Aluminum Paints by Skybryte. Leaflet describes 1000 deg heat-resisting interior paint and 550 deg heat-resisting exterior paint as well as acid- and alkali-resisting and fence paints. Characteristics of each type are given and sketches indicate use. 2 pp., illus. The Skybryte Co., 3125 Perkins Ave., Cleveland 14, Ohio.

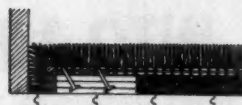
(Continued on page 236)

Now you see them... Now you don't...



DETAILS ARE *your business*
tack marks ARE DETAILS!

it's not magic... IT'S
Smoothedge
TACKLESS CARPET INSTALLATION
that makes the difference



HOW SMOOTHEDGE WORKS

SMOOTHEDGE gripper holds the carpet firmly and invisibly from beneath... dust-catching tack marks are eliminated—no bulges, puckers, ripples or ridges, because the carpet is thoroughly stretched from wall-to-wall for a perfect fit, much like a curtain on a curtain stretcher. It "stays put" until purposely removed, but when it must be taken up it's as easy as opening a zipper. No special provisions are required for installation on either wood or concrete floors. To specify, merely state, "Carpet to be installed with Smoothedge Carpet Gripper."



easy to specify • available nationally—

Handled by more than 4,000 carpet retailers and by 68 distributors. Recommended by the leading carpet mills for wall-to-wall installations.

SEND TODAY FOR FULL DETAILS, A. I. A. FILE AND NAMES OF INSTALLATION CONTRACTORS NEAREST YOU

THE ROBERTS CO. Dept. AS-6
1536 N. Indiana St., Los Angeles 63, Calif.

Please send me Smoothedge A.I.A. file ☐
Installation Manual ☐ Names of nearest contractors ☐

Name

Address

City Zone State



SCHOOL BUILDERS PACK 480 MINUTES INTO 1 HOUR

With time so pressing and man power so urgently needed, architects and contractors are utilizing high-speed RAMSET FASTENING SYSTEM for faster, more economical construction of school buildings. Because RAMSET can fasten into steel, concrete, other suitable materials at the rate of 400 per day per man, instead of only 50 per day per man by old-fashioned methods, these building men are packing 480 minutes into every fastening hour.

The time-saving, cost-saving advantages of RAMSET SYSTEM, plus its great versatility, account for its use in schools and other educational buildings throughout the country. For instance, in the West Side High School in Atlanta, Georgia, upwards of 40,000 fastenings were made with RAMSET, by the general contractor, and by sub-contractors on acoustical, sheet metal, electrical and plumbing installations.

Wherever your specifications call for fastening or anchoring involving steel, concrete, other suitable materials, RAMSET saves time and money, gets the work finished faster. Our local representatives will gladly demonstrate RAMSET and show you where and how it can be applied to schools, commercial and industrial buildings under construction or in the planning stage. Or, write for details in Architectural and Engineering Bulletin.

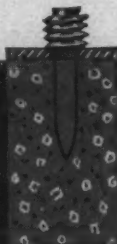
Ramset Fasteners, Inc., 12117 Berea Rd., Cleveland 11, Ohio

MEMBER OF PRODUCERS' COUNCIL

fasten
FASTER
with

Ramset System

Pioneer in powder-actuated fastening



Architectural Engineering

LITERATURE

(Continued from page 234)

School Construction

Today's Better Schools Are Built of Wood. Booklet illustrates many uses of wood in one-story school buildings. Uses are pertinent to sheathing, framing, siding, paneling, trim, sash, cabinets, flooring, etc. Examples from various structures are shown. 8 pp., illus. West Coast Lumbermen's Assn., 1401 S.W. Morrison St., Portland 5, Ore.

Roof Maintenance

Solving Roof Problems (U614a 10M 4-49). This small book is primarily a guide for maintenance men. Chapters include information on: various roof bases, paper felts used in roofing, laying the built-up roof, incidental roof factors, how roofs are un-made, related difficulties, diagnosing roof conditions, planning repairs, repair of copings, parapets and flashings, when to discard built-up roofs and area treatment of roofs, etc. Detail diagrams and photographs supplement the text. 32 pp., illus. The Tremco Mfg. Co., 8701 Kinsman Road, Cleveland 4, Ohio.*

Interior Paint

Americana Colors. Flat Wall Paint. Brochure reproduces 77 hues for interior decoration. Of these, 68 can be derived from nine basic colors (included among the 77). Proportions for mixing hues are given beneath each color plate. 2 pp., illus. E. I. du Pont de Nemours & Co. (Inc.), Wilmington, Del.*

Electrical Systems in the Home

Getting the Most from Your Home's Electrical System. Booklet is designed to help and instruct the layman in the electrical system of his home. Information deals with the electrical service entrance, branch circuits, switch control, electric outlets, electrical needs, etc. Checklists are provided for living room, halls and stairways, bed and bathrooms, kitchen, laundry, garage, utility rooms, outdoor area and attic. Detailed

(Continued on page 238)

MODERN DOOR CONTROL BY *LCN*

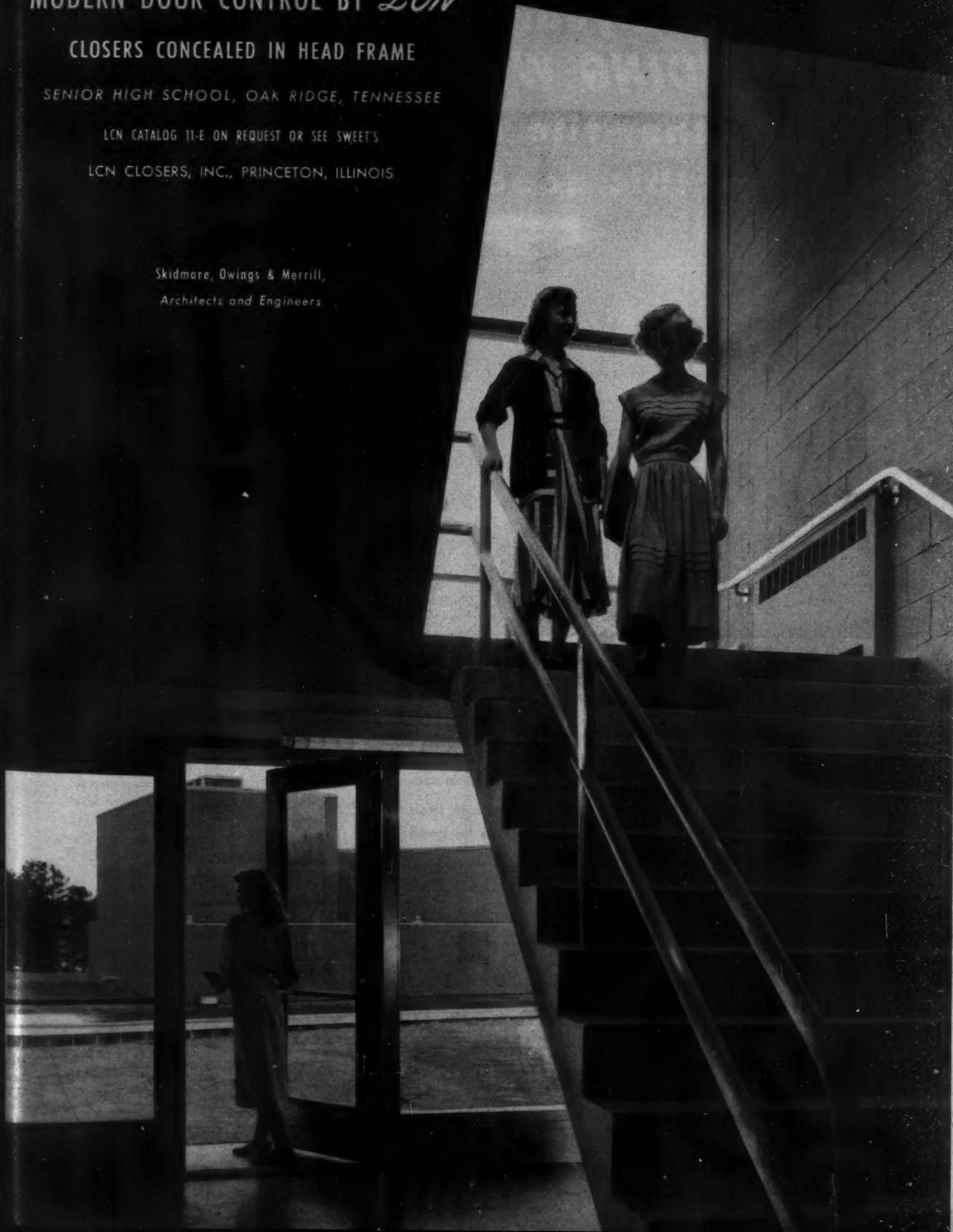
CLOSERS CONCEALED IN HEAD FRAME

SENIOR HIGH SCHOOL, OAK RIDGE, TENNESSEE

LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S

LCN CLOSERS, INC., PRINCETON, ILLINOIS

Skidmore, Owings & Merrill,
Architects and Engineers



After 30 years of
POUNDING WEAR
what other tile could
look this good?



Here is one of the first pieces of Wright Rubber Tile ever made. It *looks* like it might have been in use only a few months, yet it has seen hard wear for *thirty years!*

The first 15 years, this tile was used in a store. When the store was rebuilt, the tile was relaid in a residential kitchen. It has been there for 15 years *and is still in use.*

During these thirty years, this tile has lost less than one-tenth *its original thickness.* It appears to be good for another couple of hundred years.

Today's Wright Rubber Tile is thirty years better than the tile shown here. What greater proof could you want that Wright Rubber Tile is your best buy.

WRIGHT MANUFACTURING CO.
5204 Post Oak Road
Houston 5, Texas

FREE SAMPLE KIT FOR ARCHITECTS

Write today, on your letterhead, for a complete set of 4x4 samples of Wrightex Rubber Tile in 21 beautiful colors.



WRIGHT RUBBER TILE

FLOORS OF DISTINCTION

- WRIGHTEX—Soft Rubber Tile
- WRIGHTFLOR—Hard Surface Rubber Tile
- WRIGHT-ON-TOP Compression Cove Base

Architectural Engineering

LITERATURE

(Continued from page 236)

explanation of the various aspects of an electrical system are given in both text and illustration. 23 pp., illus. Price 15 cents. The National Adequate Wiring Bureau, 155 East 44th St., New York 17, N. Y.

Face Brick and Fireproofing

(1) *Sil-Bri-Co*; (2) *Rolex Aggregate*. Leaflets describe uses of products. The first shows typical installations using face brick, and gives sizes and colors of units available. Details on the composition of the brick are also given.

The second folder gives recommended installations of the company's lightweight aggregate. Tables give physical properties of the aggregate and recommended plaster mixes. Fire ratings are given in chart form. 4 pp. each, illus. Silbrico Corp., 901 W. 66th St., Chicago 38, Ill.

Duct Insulation

Dux-Sulation (Bulletin Series 400). Brochure lists various features of an asbestos-protected insulation felt designed for use on duct work. Application of the insulation to heating and cooling systems is discussed, along with notes on condensation, sound correction, frictional resistance, and recommended application. Tables are included for the computation of anti-condensation safety margins and reduction of noise levels. Illustrations show typical installations and step-by-step application procedure. 8 pp., illus. Grant Wilson, Inc., 141 W. Jackson Blvd., Chicago 4, Ill.

LITERATURE REQUESTED

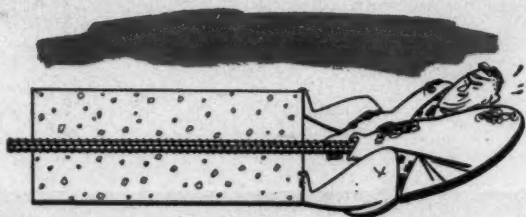
The following individuals and firms request manufacturers' literature:

Construtora Monteiro & Heinsfurter, Ltda., Engineers, Rua 7 de Abril 252-10°, São Paulo, Brazil.

Bruce E. Howlett, 10732-76th Ave., Edmonton, Alberta, Canada.

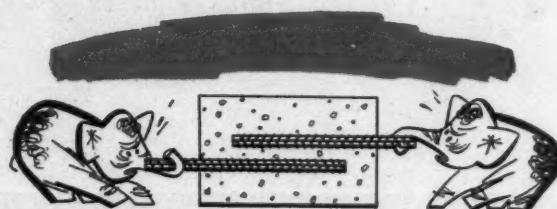
Sankei Industrial Engineering Research Assn., Osaka Press Bldg., 48 Sonezaki Kami 4-chome, Kitaku, Osaka, Japan.

Advantages offered by
Inland HI-BOND since 1943
now officially recognized by
American Concrete Institute



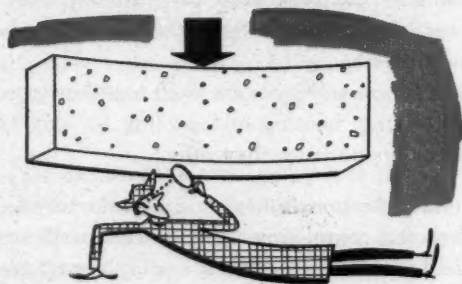
**1 Increased bond stresses and
greater resistance to slip**

See reports on National Bureau of Standards research
by Arthur Clark . . . ACI Proceedings, Vol. 43, p. 381;
Vol. 44, p. 437; Vol. 46, p. 161; by C. C. Fishburn . . .
ACI Proceedings, Vol. 44, p. 289.



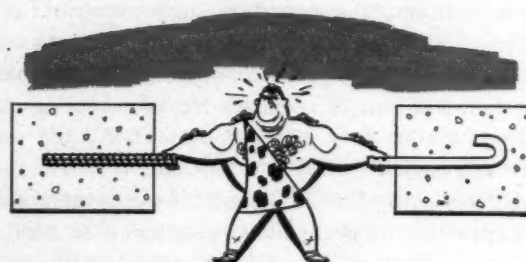
**2 Increased efficiency
at splices**

See reports on National Bureau of Standards research
by Ralph W. Kulge and E. C. Tuma . . . ACI Proceed-
ings, Vol. 42, p. 13.



**3 Reduced width of
tensile cracks**

See reports on National Bureau of Standards research
by David Watstein and Norman Seese, Jr. . . . ACI
Proceedings, Vol. 41, p. 293.



**4 Hook anchorages unnecessary
in most applications**

See reports on National Bureau of Standards research
by C. C. Fishburn . . . ACI Proceedings, Vol. 44, p. 289;
by F. E. Richart . . . ACI Proceedings, Vol. 45, pp. 97
and 237.

See new ACI Building Code

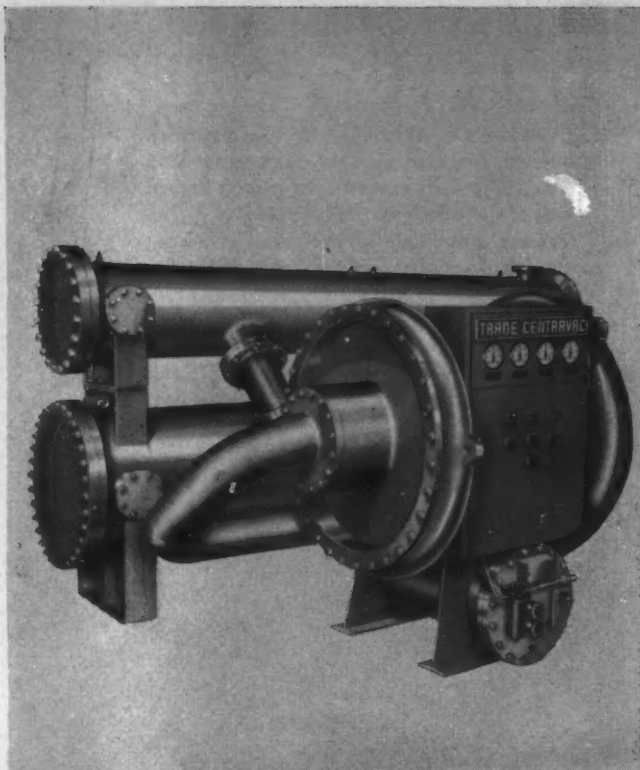


HI-BOND

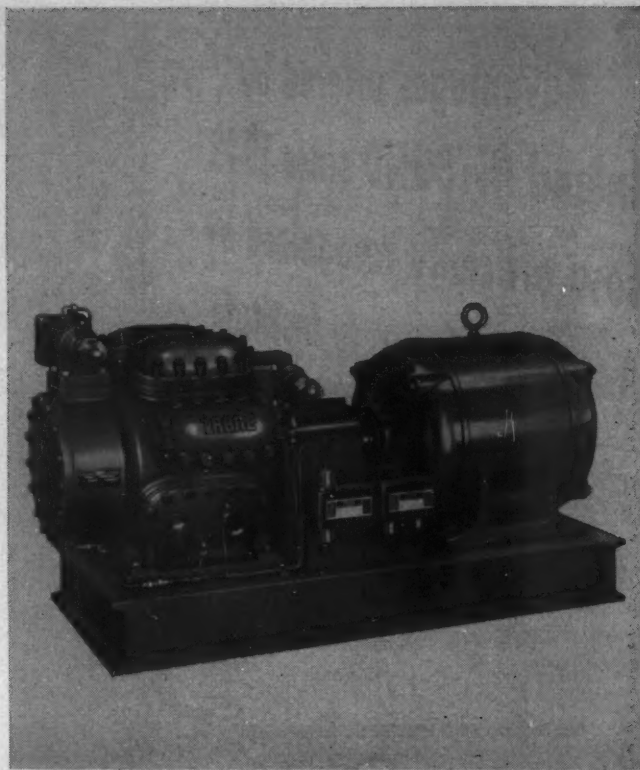
The reinforcing bar with
the built-in anchorage



INLAND STEEL COMPANY 38 S. Dearborn St., Chicago 3, Illinois



Trane CenTraVac—Hermetic Centrifugal Refrigerating Unit—
Six models starting at 45 tons.



Trane Reciprocating Compressor and Condensing Units—
Six models up to 50 tons in capacity.

From Equipment Room to Penthouse

Many architects, engineers and contractors are discovering new advantages in the complete Trane line of heating, cooling and air conditioning equipment.

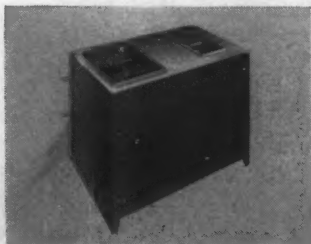
Trane manufactures equipment ranging all the way from a centrifugal compressor capable of developing more than 200 tons of refrigeration to a cooling coil small enough to carry under your arm. All the way from a tiny radiator valve to a 108" fan.

All this equipment is designed by one integrated staff of product engineers all working together. All this equipment is built in Trane plants under one all-inclusive factory staff. All Trane products are carefully tested and rated by one complete laboratory directed by a single management.

Matched Products. The result—all Trane products are designed and manufactured for use together. Each product is matched with every other Trane product for maximum service.

When Trane products are used together to provide air conditioning, heating and cooling for any type of building or for process, they offer:

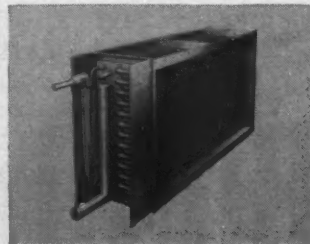
1. Undivided Responsibility—one manufacturer—Trane—assumes the complete responsibility for the correct rating and performance of all the equipment if properly installed and controlled—no blaming the maker of the evaporative condenser if the compressor won't work.



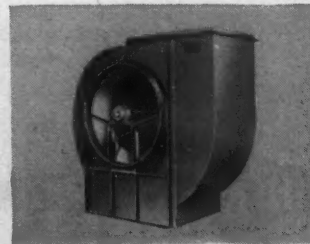
Trane Evaporative Condenser—For condensing refrigerants in the air conditioning system with the minimum use of water.



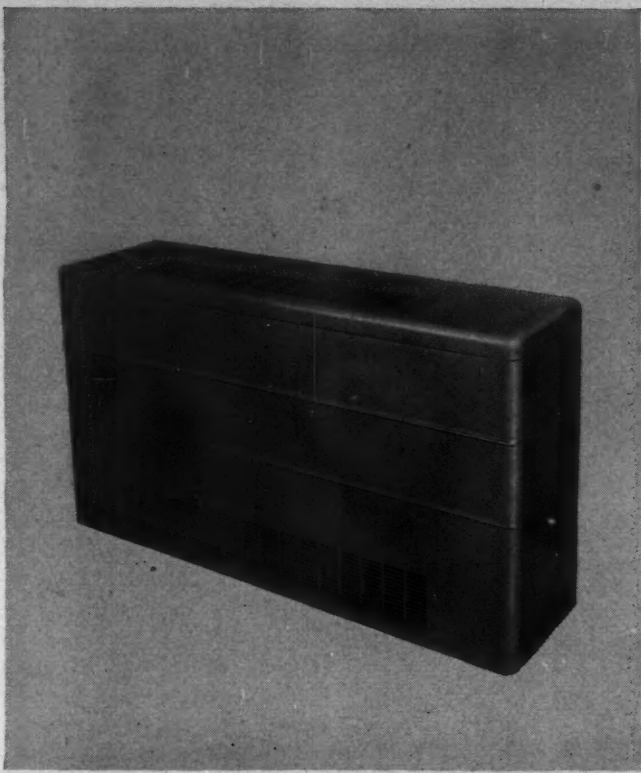
Trane Sprayed Coil Unit—For built-up systems requiring separate fan motor and drive and filters. Heats, cools and washes air.



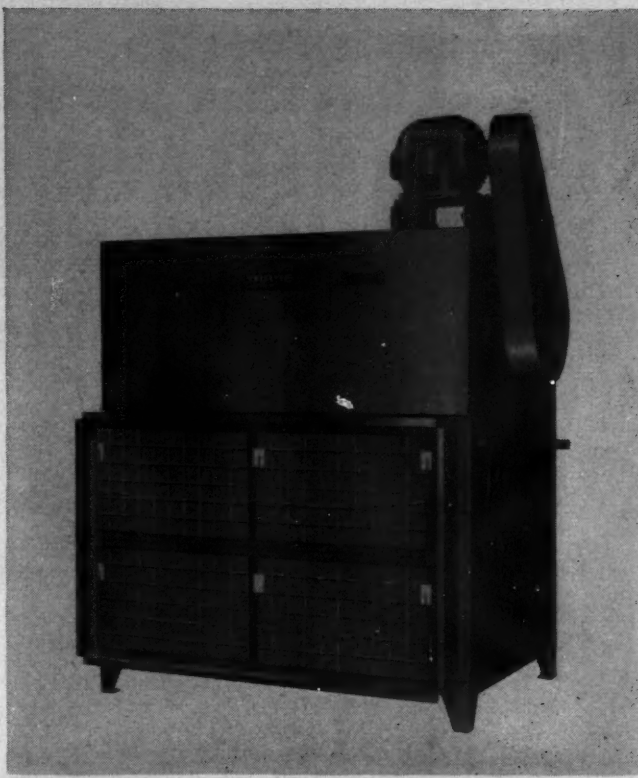
Trane Cooling Coils—For use with clean chilled water or well and municipal water or with direct expansion refrigerants.



Trane Centrifugal Fans—In Class I and II construction with backwardly inclined or forward curved wheel construction.



UniTrane Air Conditioners — Available in two styles with one, two or three fan arrangements.



Trane Climate Changers — Twenty-four standard combinations of coils, fans, humidifiers, filters, dampers, 450 to 16,250 cfm.

Trane Air Conditioning Products Serve Everywhere

2. One Source of Supply — all products are sold by the same high-grade sales-engineers who are trained carefully as equipment consultants. They know Trane products and they know your problems of heating and air conditioning. You deal with one salesman instead of many.

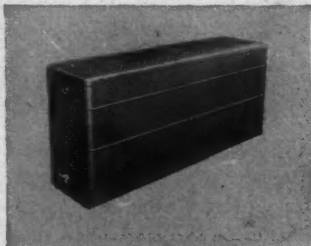
3. One Set of Catalogs — you can select all the products you need for air conditioning from one catalog binder. No searching around for ratings and dimensions—no necessity for correlating ratings and sizes. Everything is contained in those big Trane binders that fit so handily at your elbow.

4. Complete Flexibility — all Trane products are avail-

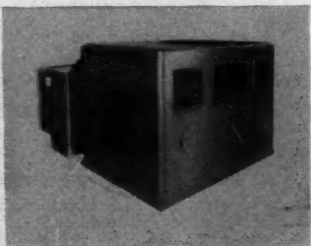
able in a complete range of sizes and models. Regardless of your problems there is Trane equipment to fit your requirements exactly — no fitting your requirements to inflexible equipment. So flexible is the Trane line that you can create a 50-ton air conditioning system in at least 10 different ways.

More and more architects, engineers and contractors are specifying and installing Trane equipment for these reasons. Why not try the undivided responsibility of Trane Heating, Cooling and Air Conditioning Equipment on your next project?

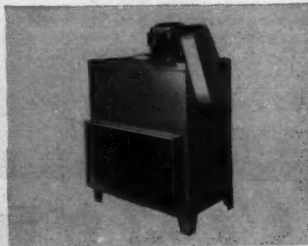
Whatever your air conditioning problem is, look for the answer in an undivided responsibility system of matched Trane products.



Trane Custom-Air—Deluxe air conditioning system for multiroom buildings. Controls temperature and humidity separately.



Trane Multi-Zone Climate Changers—A single air conditioner that handles up to six zones in the same building.



Trane AA Air Conditioner—A compact year-around unit for the small apartment, office, hotel or tourist court.

TRANE

MANUFACTURING ENGINEERS
OF HEATING, VENTILATING AND
AIR CONDITIONING EQUIPMENT

THE TRANE COMPANY, LA CROSSE, WIS.
Eastern Mfg. Division . . . Scranton, Pennsylvania
Trane Company of Canada, Ltd. . . . Toronto
OFFICES IN 80 U. S. and 10 CANADIAN CITIES

Here's the greatest
TIME-SAVING
MONEY-SAVING
fastening team in history!



for
Split-second
Fastening
of steel
or wood
to concrete,
steel,
masonry

With the introduction of the new heavy-duty "400", DRIVE-IT now offers the best engineered fastening team in the history of powder-powered tools.

Time-tested, exclusive features of the popular DRIVE-IT "300" have now been embodied in the new heavy-duty "400". These include CONTROLLED POWER with one power load, PERMANENT, ADJUSTABLE safety pad, SURFACE PROTECTOR to prevent splitting wood and 25% greater driving power.

So on all jobs involving the anchorage of steel or wood to concrete, steel or masonry, let the DRIVE-IT "fastening team" save you time and money. Write for the name of your DRIVE-IT representative.

Distributors Coast to Coast

THE POWDER POWER TOOL CORPORATION

0719 S. W. Woods St., Portland 1, Oregon
(Canadian Distributor:) Amme Power Tool Co., Ltd.
Foot of McLean Drive, Vancouver, B. C.



THE RECORD REPORTS

WASHINGTON

(Continued from page 26)

Community Facilities Service, and the direct allocation funds for schools from the U. S. Office of Education.

There was general agreement that the defense housing measure passed by the Senate weeks ago, but idle in the House Banking committee early in May, would provide much of the emergency assistance for construction of the local, non-federal public works type. But Chairman Brent Spence (D-Ky.), of the House group, showed no immediate inclination to move the Senate bill out of his committee. (A broader House bill on the same subject, reflecting more nearly the Administration's desires for a comprehensive federal assistance plan in community facilities construction, was defeated on a rule vote in the House and sent back to the committee. Later the Senate put its own bill through easily and sent it over to the House where it was referred to the House Banking unit, Representative Spence's committee.)

DPA's interagency committee said it lifted the Regulation X curbs in San Diego because of the Navy's extensive expansion programs there. The additional housing is being allowed for Corona because of a guided missile laboratory, and for Colorado Springs because of the new Air Force activity nearby.

The critical area determinations are made after the committee has sifted information on the local housing supply, the impact of new military and/or defense activity, and the situation with regard to available community facilities such as waterworks, sewers, roads, schools, hospitals, etc. In most instances the number of housing units permitted under the relaxed control has been limited by a shortage of such facilities to serve the new construction wanted. This points up the argument on an immediate need for aid to communities now short on such facilities and feeling the impact of defense mobilization — if the required housing is to be constructed.

Special Programs Get Help

Meanwhile, NPA made allocations of materials (copper, steel and aluminum) for special programs during June pending inauguration of the controlled plan at mid-year. The Bureau of Public Roads was allotted 151,000 steel tons for

(Continued on page 244)



The exceptional durability and resistance to indentation of Armstrong's Linotile® has made this resilient flooring first choice for areas subjected to concentrated traffic or heavy furniture loads. Linotile's smooth surface and extra dense composition provide a combination that keeps maintenance costs to a minimum.

General Offices, The Best Foods, Inc.
1 East 43rd St., New York City

ARMSTRONG'S LINOTILE
ARMSTRONG CORK COMPANY • LANCASTER, PENNSYLVANIA

NOW — THE ANSWER TO RAPID SPOT REMOVAL OF HEAT, FUMES, ETC.



The New Burt F.E.F. Ventilator

The Burt Free Exhaust Fan Ventilator is an important new development for rapid localized removal of air contaminated by smoke, fumes, dust and heat. Its advanced design supplies—

HIGHER CAPACITY

Two dampers, above the fan, open wide when the fan is started—close automatically when fan is shut off. In operation, the airshaft provides an absolute free opening that exhausts a large, unrestricted volume of air vertically upward at high velocities.

AERODYNAMICALLY DESIGNED FAN

The Burt Axial Flow Airfoil Fan, used in the F.E.F. is designed specifically for the rapid removal of air—it is not "just another propeller." It provides a high volume of air delivery with efficient and economical operation.

COMPLETELY WEATHERPROOF

Dampers are open only while ventilator is in operation—close automatically to thoroughly weatherproof unit when fan is shut off.

SEVEN SIZES • SEVENTEEN MOTORS

Seven sizes and 17 motor choices provide capacities from 5000 C.F.M. to 75,500 C.F.M. Complete data in Sweet's, or write us for Bulletin S.P.V.-18.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

48 E. South St., Akron 11, Ohio

THE RECORD REPORTS

WASHINGTON

(Continued from page 242)

construction of federal-aid road and street systems in that month. The agency is requiring allocation and assignment of DO-rated orders for specific tonnage amounts for each project.

The U. S. Office of Education was allowed 24,869 product tons of steel for school construction in June, and 16,465 product tons will go to the U. S. Public Health Service for its hospital construction program during the month.

The agency made tentative allocations of copper and aluminum for hospitals and schools on a pound basis. These were being revised and adjusted to balance wide differences that occurred in the initial figures due to a difference in timing of the submission of the program requirements to NPA by the respective agencies.

The June allotments are considered "emergency assistance" to the special programs. It represents the first time that special allocations of this form have been made for hospitals and schools. Said Federal Security Administrator Ewing:

"They are believed by the Defense Production Administration to be sufficient during June for urgently needed construction which otherwise would not be possible, although it is expected that a large part of the school and hospital building program will continue on an open market basis."

It was promised at the same time that hardship cases in which essential construction has been delayed or stopped due to material shortages will be given first consideration in processing applications.

FSA recently announced the reservation of \$46.5 million for 100 school construction projects in local areas affected by new federal activity. These funds, to be distributed on proper application, will meet the most urgent needs for school construction only in an estimated 10 per cent of the localities where federal military and defense expansion is placing added burden on school districts.

The inadequacy of this emergency assistance is indicated further by the Community Facilities Service announcement that as of April 1, there were on hand some 883 applications for federal funds for various school construction pro-

(Continued on page 246)

Auto-Lok

PATENTED

the Awning Window that has brought new meaning
to the phrase...
"WEATHER CONTROL"

Yes, educators and other school officials are quick to sense how effectively AUTO-LOK Awning Windows play their role in enabling students to get the most out of educational facilities provided. They applaud the 100% weather control these windows make possible; they heartily endorse the elimination of air-infiltration and the manner in which these modern school windows cut down danger of drafts or perilous "cold spots" which invite respiratory ailments and consequent absence from classes.

Students, too, appreciate the "ventilation at all times" -- regardless of the weather outside -- and welcome the spring breezes, the maximum visibility and the abundance of light that AUTO-LOK brings to any classroom.

The *operating economies* of AUTO-LOK are at once recognized by school boards and staffs. Lower fuel bills. Decreased maintenance costs (for example, the windows are easily cleaned from the inside.) Upkeep expense of any kind is negligible.

The Window with the "FLOATING SEAL"

No need to mention to architects that the providing of weatherstripping isn't the sole answer to elimination of air-infiltration. However, in AUTO-LOK, vinyl plastic weatherstripping combines with the ingenious locking action of patented, precision hardware to create a "floating seal." The vents are pulled in tight (locked at all four corners) and are compressed against the vinyl plastic -- assuring a tight closure *ten times as tight* as generally accepted standards - in truth the

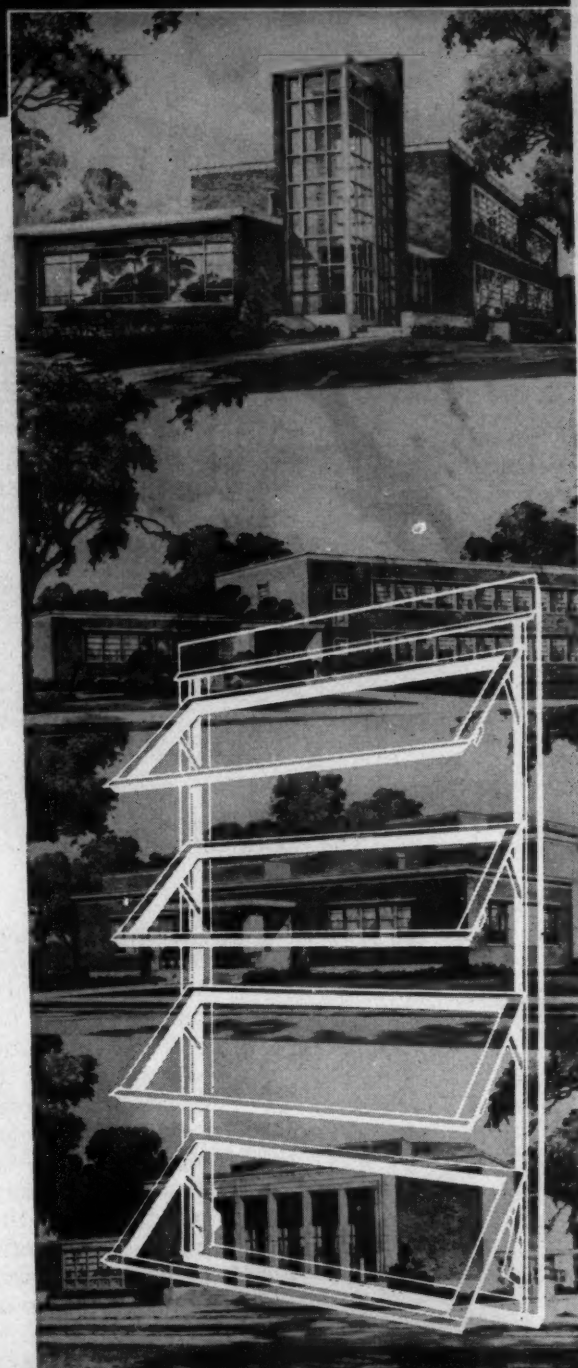
TIGHTEST CLOSING WINDOWS EVER MADE

Our engineering department, with wide experience in solving window problems, will be glad to assist you in any way.

May we send you, free,
informative booklet,
"WHAT IS IMPORTANT IN A WINDOW?"
Please address Dept. AR-6

Pictured above:
Randolph-Macon College
Ashland, Virginia
Arch. - Merrill C. Lee
Richmond, Virginia

LUDMAN CORPORATION
P. O. Box 4541
Miami, Florida



Auto-Lok

PATENTED

weatherstripped
AWNING WINDOWS
ALUMINUM or WOOD

Practically a new book

ARCHITECTURAL GRAPHIC STANDARDS

368 new plates
151 pages revised
11,560 index
references

566 plates in the new **FOURTH EDITION**

By
**Ramsey
and
Sleeper**

Data drawn from thousands of sources has been translated into the graphic form for the architect, engineer, and builder. Every piece of information has been checked for correctness and modern usage.

50 pages of index

Each of the 566 plates is indexed under every conceivable

heading, to make this edition the handiest ever published. An *Inventory of the Contents* — itemized by general subject — appears on the end papers, front and back. The plates themselves are arranged in the usual order of building, with related subjects on facing pages. You'll find every imaginable standard, from the size of a paring knife to modern wall structures, packed into the new Fourth Edition of *Architectural Graphic Standards*.



1951 614 pages 9 $\frac{3}{8}$ x 11 $\frac{3}{4}$ in. \$10.00

APPROVAL COUPON

JOHN WILEY & SONS, INC., Dept. AR-651
440 Fourth Ave., New York 16, N. Y.

On 10 days' approval, send Ramsey-Sleeper's *Architectural Graphic Standards, Fourth Edition*. I will remit \$10.00 plus postage or return book postpaid. (Offer not valid outside U. S.)

Name.....

Address.....

City..... Zone..... State.....

Employed by.....

SAVE POSTAGE — We pay postage if you enclose \$10.00 now. Money back on same return privilege.

THE RECORD REPORTS

WASHINGTON

(Continued from page 244)

grams. These came from 554 school districts and involved a proposed expenditure of \$283 million, two thirds of which would be borne by the federal government.

How Much Steel for Building?

Structural steel shortages continued to be the greatest threat to an even progress of building plans in the commercial and industrial fields. The control agencies have been urging the redesign of plans that call for any extensive use of structural steel and recently Manly Fleischmann, National Production Authority administrator, came out with the flat assertion that all structural steel would be under strict regulations by the first of 1952.

In off-the-cuff remarks to the press, which later were given quote permission, Fleischmann said the growing defense demands for structural shapes brought on the important NPA decisions.

He asserted that public works projects would feel the pinch along with other types of building. At the same time, he recalled the letter written by Mobilization Chief Wilson to Governor Thomas E. Dewey of New York, telling the latter that no steel could be expected for new highway construction during the year ahead. This, of course, excepted any strictly essential projects, such as access roads to military and defense installations, and probably a certain amount of work on the interstate highway system.

"The lid will have to be put on most public works projects for the time being," the NPA Administrator said. This included schools and hospitals, he was careful to point out, except for those deemed "most essential."

How to Appeal Permit Denials

In another current move, NPA established a new appeals procedure which directly affects architects and contractors and their applications for permission to build. A three-man board has been named to hear appeals for adjustments arising from denial of applications by NPA industry divisions. Chairman is T. Munford Boyd, University of Virginia law professor. The others are Frank J. Peterson and Jack M. Rorimer,

(Continued on page 248)



Better Ballasts Mean Better Lighting

**For more light per lamp, more light per watt
make sure your fixtures are powered by
General Electric Fluorescent ballasts.**

QUALITY COSTS LESS

Fluorescent lamps are designed for starting and operating at specific values of electrical power. When these values are accurately maintained by a quality ballast, the ratio of light output to power input is high—you save money because the lamp is operating at peak efficiency. Improper operation with a poor ballast means *lower* light output, and *shortened* lamp life.

HOW QUALITY BALLASTS SAVE YOU MONEY

More light output from fixtures powered by G.E. Ballasts means initial investment is less to obtain the

same level of light. Longer lamp life means a yearly saving on maintenance and replacement costs. More efficient operation means a saving in power costs for the same light output.

**ASK FOR THIS TAG ON THE
FIXTURES YOU SPECIFY.** It is
your assurance of ballast quality.
It means you are specifying a fixture
made by a fixture manufacturer who
builds with the best. General Electric
Company, Schenectady 5, N. Y.



GENERAL  ELECTRIC

412-51

THE RECORD REPORTS

both former War Production Board officials.

It is important to note that the new board will hear appeals from industry division decisions only when the concern or individual has no new substantial facts to submit in connection with his case. If he has such new facts, additional data at hand to support his cause, he then applies once again to the industry division of NPA concerned, asking re-

WASHINGTON (Cont. from p. 246)

consideration of his plea. The responsible industry division then will act on the re-application, NPA officials stated.

The following ground rules were laid down:

1. Appeals must be filed in quadruplicate with the secretary of the NPA appeals board, office of the administrator, National Production Authority, U. S. Department of Commerce, Washington 25, D. C.

2. The notice must include the nature of the NPA action appealed from, grounds for appeal, and copies of documents on the NPA action.

3. It must state whether a hearing before the board is desired and must be filed within 45 days after the NPA decision is made on the initial application for adjustment.

4. Re-application must be submitted within 30 days after date of the NPA decision. The cut-off date of May 25 was established for filing re-applications where decisions already had been made by industry divisions at the time of the new appeals board announcement.

The board meetings were to be thrown open to the public in every instance where national security and other controlling factors permitted. Decision on whether meetings will be public or private will rest with the appeals unit itself. And the board also will decide whether or not industry division representatives, persons from other government agencies, business competitors and others claiming interest in the specific case appealed may take an active part in the hearing.

BRAB Forms Liaison Unit

The Building Research Advisory Board announced formation of a new Building Research Institute. This group will act as a liaison organization between the construction industry and BRAB. Its province will be confined to consideration of technical problems of industry only. It will not deal with policy matters, said William Scheick, BRAB executive director.

Institute memberships now are available under five classifications — manufacturers, contractors, associations, participating memberships and professional memberships. A sliding scale applied to annual dues makes it possible for a building industry organization to have additional representatives present at BRI meetings.

The following opportunities for new Institute members were outlined by BRAB:

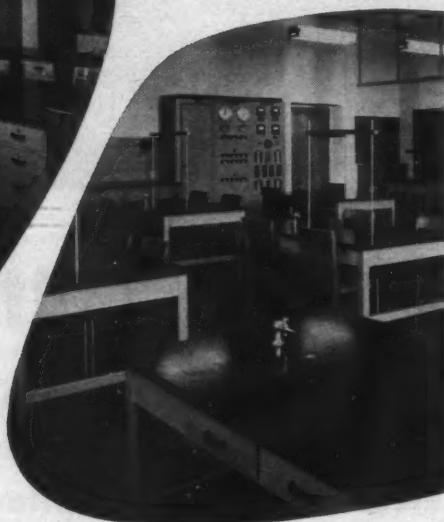
1. Members will be kept informed on research developments in the building industry. This information will be released to members by a special bulletin and publications and will help keep them abreast of research activity effecting their businesses.

2. Members can participate in meetings sponsored by Institute, at which

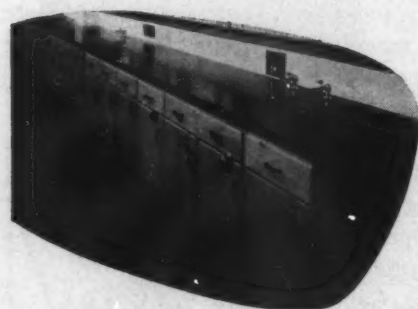
(Continued on page 250)

for technical excellence . . .

it's KEWAUNEE



—at Technical Institute



Technical excellence in functional design, in engineering and construction, in quality and value. KEWAUNEE excellence —through and through. The big reason why Technical Institute, Long Beach, Cal., selected Kewaunee equipment for its new science laboratories.

Whatever your laboratory needs—for now and the future—look to Kewaunee for the standard of excellence. Wood or metal construction—both custom quality, yet mass produced to keep costs down.

Write today for free catalog of Kewaunee equipment, indicating whether interested in wood or metal. No obligation, of course.

Representatives and sales offices in principal cities

Quantity production of Cabinets, Casework, Laboratory Desks, Tables and Sinks enables us to supply Kewaunee quality at competitive prices.

Kewaunee Mfg. Co.
C. G. Campbell, President
3046 S. Center Street
Adrian, Michigan

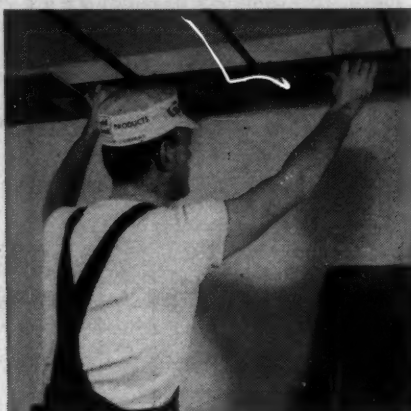
SUSPENDED CEILINGS of GYPSUM LATH and PLASTER

now easy with Gold Bond's CLIP-LOK System

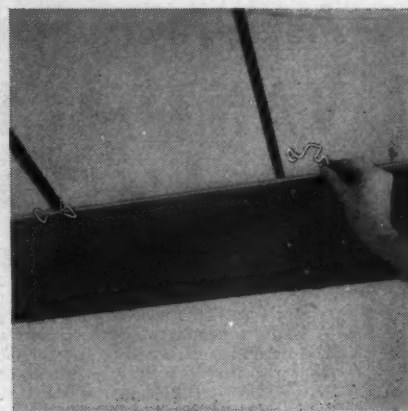
It may be applied to any suspension of $\frac{3}{4}$ " cold-rolled channels not over 16" on center.



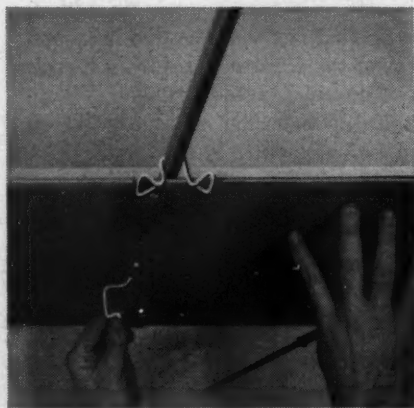
1. Here is the first step in installing an economical ceiling with the new Gold Bond Clip-Lok System. "F" starter clip is placed over $\frac{3}{4}$ " furring channel at wall line. Note Gold Bond Hairpin Clip joining channels.



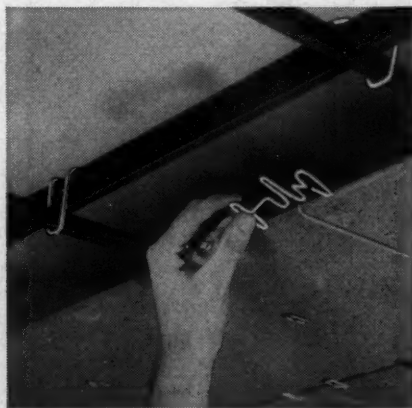
2. Now a piece of Gypsum lath is engaged by the starter clips. Plain or perforated $\frac{3}{8}$ " Gold Bond gypsum lath may be used. Handy clip cartridges are attached to lather's belt. Clips are made of strong wire.



3. Here the free side of the lath is supported by spring action "F" channel clips. They encircle the furring channels and provide a positive grip of lath to channel. Fast applying, no bending of clip required.



4. The center of the lath panel is permanently secured to the furring channel by the "Z" clip. This clip is pushed through the lath and locked over the channel. Holes can be punched with screwdriver or with the clip itself.



5. Ends of the lath fall between channels and are secured to one another by means of the flexible spring-type "C" connector clip. Completed lathing is rigid, providing a sturdy base for an economical application of $\frac{1}{2}$ " thick two coat plaster work.



Specification of this Gold Bond Clip-Lok System with Gold Bond gypsum lath permits contractors to build suspended ceilings that might otherwise be held up for lack of critical materials. Ask your local Gold Bond representative for more details, or write us.

Gold Bond Clips are also available for sound-rated and crack resistant wood-framed partitions.

NATIONAL GYPSUM COMPANY, BUFFALO 2, N. Y.

Gypsum Lath, Metal Lath and Accessories, Plaster, Lime, Best Bros. Keene's Cement, Acoustical Plaster, Sheathing, Wall Paint and Rock Wool Insulation.

THE RECORD REPORTS

they can suggest research projects for BRAB to undertake. Further, these meetings will offer members the opportunity to come in closer touch with other building industry people for the solving of mutual problems.

3. Members will be in a position to stimulate research work in those fields which they feel are neglected.

4. Members can add their opinions to the consensus of knowledge offered by

WASHINGTON (Cont. from p. 248)

BRAB as research advisory service to the government, industry and university research programs.

Reginald W. Holt has been designated as director of BRAB's field service and in that capacity will further the activities of the new Institute, providing information and a point of contact for potential members.

Director Scheick has explained that BRAB is uncovering many examples of

duplication in research effort as it continues to scan the entire field. His program now has developed to the point where industry, in checking with BRAB, can readily determine in most cases just what research has been done, is being done, or is planned on specific subjects.

BRAB Plans Tropical Study

A study group appointed by Chairman Hovde is now at work on an outline of functions for BRAB's recently established Committee on Tropical Housing and Construction.

The study group, which is also considering names for committee membership, consists of Dean W. R. Woolrich, of the School of Engineering of the University of Texas, as chairman; Ralph Walker, immediate past president of the American Institute of Architects; and George Rapp of BRAB.

Dean Woolrich has suggested that the new committee might be composed of three unit groups centered in California, Texas and Florida, which together would constitute a full committee. It has also been suggested that as organization of the committee progresses there might be good reason to initiate its activities with a research correlation conference on the subject.

Appointment of the Tropical Committee was authorized by BRAB at its February 15 meeting. At that meeting, Dean Woolrich outlined the need for stimulation of research on this subject. He pointed out that the Southern portions of the United States from Florida to California have virtually a subtropical climate and one of the largest population groups living under such conditions. Most research on influence of climate on building has been done for "cold" areas.

ON THE CALENDAR

Current through June 8: 1951 Canadian International Trade Fair — Exhibition Grounds, Toronto, Ont.

Current through Sept. 30: Festival of Britain, including architectural exposition on main exposition grounds, south bank of Thames, London — London and throughout British Isles.

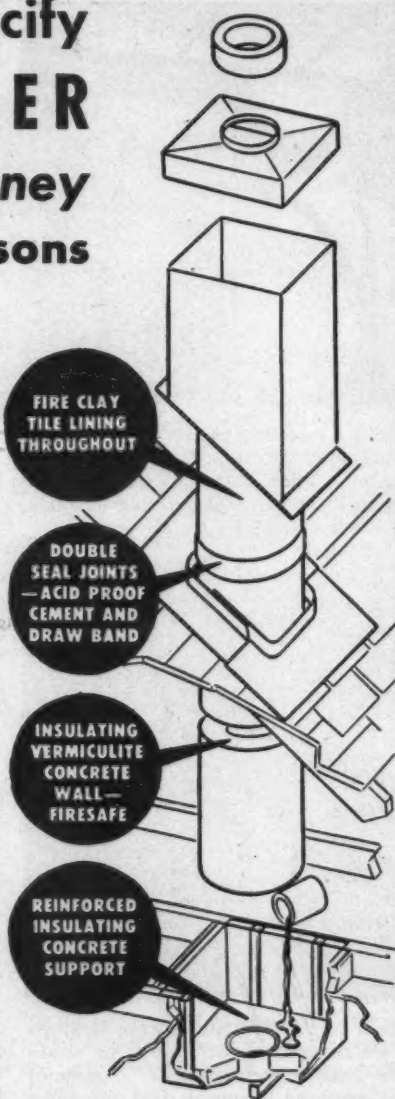
Current throughout 1951: 1951 Good Design, second in the series of well-designed home furnishings exhibitions, sponsored by the Museum of Modern

(Continued on page 254)

Architects Specify VAN-PACKER Complete Chimney ...for these 7 reasons

1. There's greater freedom in planning. A Van-Packer installation eliminates the necessity of locating the furnace near the fireplace at one end of the house. Instead the heating plant can be centrally located where it will operate with the greatest efficiency.
2. The architect knows the exact installed cost of a Van-Packer complete chimney without "guesstimating". He can save up to 50% compared to brick construction and pass these economies on to the buyer.
3. Van-Packer is easily installed in 3 man-hours or less.
4. Van-Packer develops sufficient draft for heating plants designed to serve homes of ten rooms or less. Underwriter and F.H.A. accepted for all fuels.
5. **Maximum Heater Output for Van-Packer 7" I. D. Flue**

20' Floor Suspended		10' Ceiling Suspended	
Coal	B.T.U.	Coal	B.T.U.
250,000	PER HOUR	150,000	PER HOUR
Oil	B.T.U.	200,000	PER HOUR
300,000	PER HOUR	Gas	B.T.U.
Gas	B.T.U.	450,000	PER HOUR
6. Valuable floor space is saved as a Van-Packer chimney can be hung from the ceiling.
7. The Van-Packer Chimney is nationally distributed through reliable heating and building material jobbers. Availability and immediate delivery assure you that Van-Packer will be on the job when it's needed.

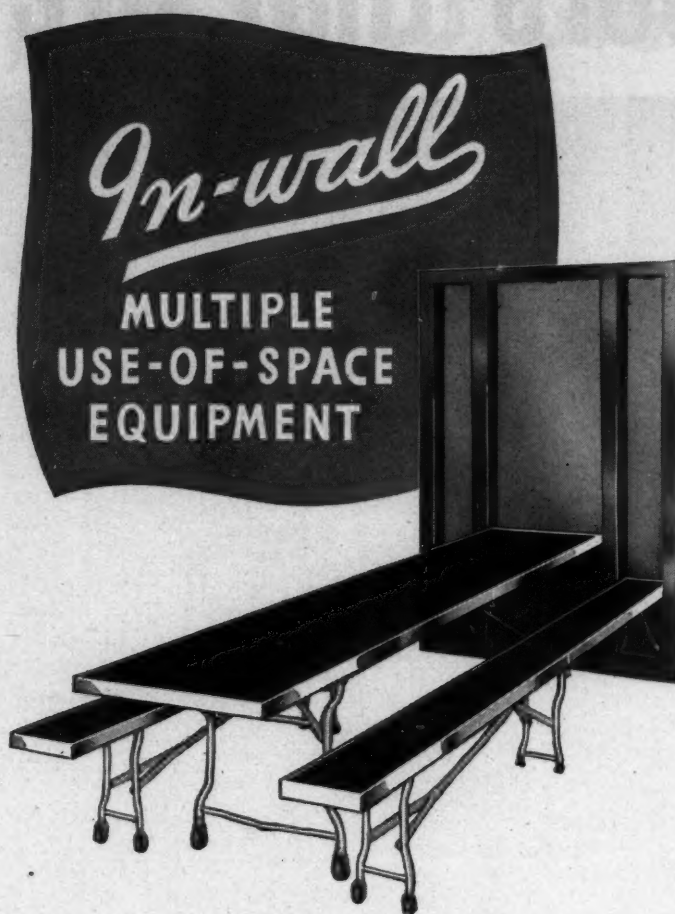


Write for New Architect Sheet!

Van-Packer CORPORATION

209 S. LaSalle St. • Dept. 1406 • Chicago 4, Ill.

Also Manufactured and Distributed in Canada by
C. A. McRobert and Son, Ltd., St. Laurent, Quebec



Activities area can be converted to lunch room for 200 in 8 minutes. It's the logical solution to the problem of high building costs and increased enrollments. May we send you complete information?

Schieber Manufacturing Co.
12728 Burt Road
Detroit 23, Michigan

In Canada
La Salle Recreations Ltd.
945 Granville Street
Vancouver, B. C.



Easy to roll out from wall



Easy to roll back into wall

For floors that are quiet,



1. The rich appearance of Nairn Linoleum counts more heavily than ever in modern rooms . . . note how effective Nairn

insist on the 4-square features of

Only the best of everything goes into America's beautiful school buildings! Naturally, then, Nairn Linoleum was chosen for the floors in Euclid Senior High School. It was selected because it stands up under

the toughest wear—and keeps its beauty. Because it's quiet, restful, and resilient . . . because it's quick and easy to clean . . . and because both installation and upkeep costs spell true economy.

*For your specifications: Nairn Linoleum—
Nairn Wall Linoleum—Nairn Asphalt Tile.
Congoleum-Nairn Inc., Kearny, New Jersey*

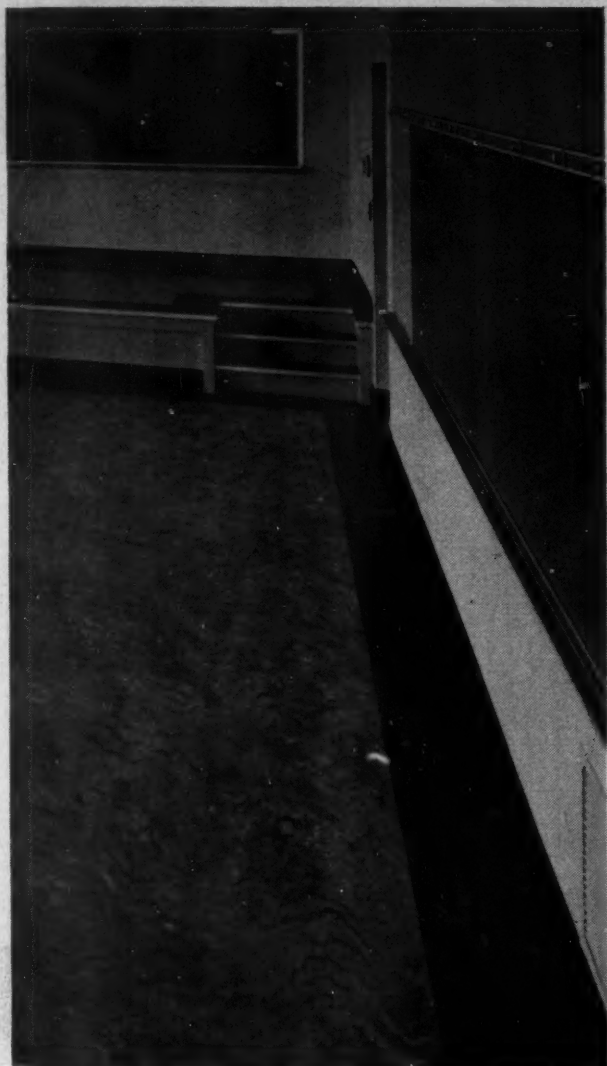


NAIRN LINOLEUM

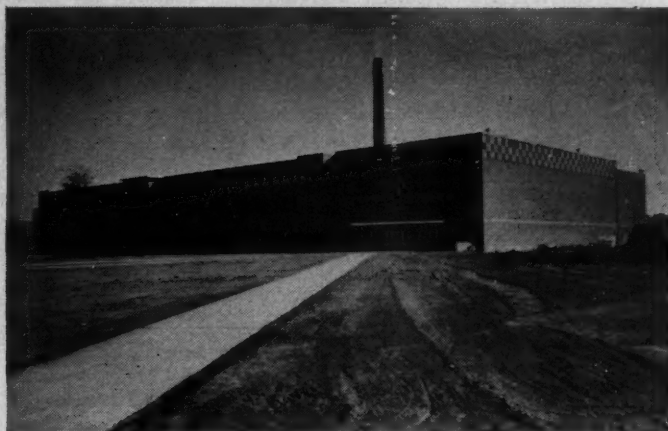
Trade-mark ®

©1951 Congoleum-Nairn Inc.

sturdy, easy to clean...



Veltone is here, in the efficiently planned visual education room in the Euclid Senior High School, Euclid, Ohio.

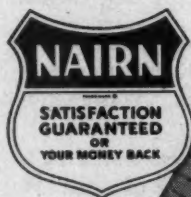


2. The new impressive-looking Euclid Senior High School, a fine example of current trends, incorporates every sound modern idea for a handsome and efficient education building.



3. Notice the striking decorative effect achieved by the linoleum border in this double room. The room can be adjusted to various uses by closing or opening the flexible partition.

Nairn Linoleum!



**For FLOORS
and WALLS**



- 1. Long Life**
- 2. Enduring Beauty**
- 3. Easy Maintenance**
- 4. True Resilience**



4. Quiet counts in a floor in a library—and here is Nairn Veltone in the well lighted, roomy, comfortable library at Euclid Senior High School.

THE RECORD REPORTS

(Continued from page 250)

Art and The Merchandise Mart — The Merchandise Mart, Chicago.

June 6: Annual Meeting, Indiana Society of Architects.

June 6-21: Antique Dealers' Fair — Grosvenor House, Park Lane, London.

June 14: Final Gold Medal Dinner — The Architectural League, 115 E. 40th St., New York, N. Y.

June 15-16: Spring Meeting, Virginia Chapter, American Institute of Archi-

itects — Hotel Chamberlin, Old Point Comfort, Va.

June 18-22: Annual Meeting, American Society for Testing Materials — Chalfonte-Haddon Hall, Atlantic City.

June 20-July 15: "Modern Relief," an exhibition including actual bronzes in relief by Maillol, Arp, Callery, Lipchitz and others, as well as photographs of work by other modern artists showing reliefs in their architectural settings —

Museum of Modern Art, 11 W. 53rd St., New York City, and circulating.

June 21-23: Conference of Middle Atlantic District, American Institute of Architects, in conjunction with Second Annual Convention, New Jersey Chapter, A.I.A., and New Jersey Society of Architects — Berkeley-Carteret Hotel, Asbury Park, N. J.

June 21-24: Sixth Midyear Meeting, Building Industry Employers of New York State — Whiteface Inn, Lake Placid, N. Y.

June 24-27: 1951 Conference, National Industrial Advertisers Association — Waldorf-Astoria Hotel, New York City.

June 25-29: Summer General Meeting, American Institute of Electrical Engineers — Royal York Hotel, Toronto, Ont.

July 1-Sept. 1: Fountainebleau School of Fine Arts and Music. Details available from: Fountainebleau Association, 122 E. 58th St., New York City.

July 4-Sept. 3: Exhibition of Frank Lloyd Wright Johnson Wax Company buildings in color reproductions at the Museum of Modern Art, New York City, has been postponed. New dates to be announced.

July 21-Aug. 4: Oxford Summer School on Architectural History and Measured Drawing, held in connection with the Festival of Britain. Details available from: J. Brosgall, Shire Hall, Reading, England.

Aug. 2-5: Midsummer Conference, Michigan Society of Architects — Grand Hotel, Mackinac Island, Mich.

Aug. 13-25: Special Summer Course in Swedish Decorative Arts and Architecture — Swedish Institute, Kungsgatan 34, Stockholm 3, Sweden.

Aug. 14-16: National Conference on prestressed concrete — Massachusetts Institute of Technology, Cambridge, Mass.

Aug. 20-23: Pacific General Meeting, American Institute of Electrical Engineers — Multnomah Hotel, Portland, Ore.

Aug. 27-30: National Technical Conference, Illuminating Engineering Society — Hotel Shoreham, Washington, D. C.

Sept. 1-Oct. 6: Architects' Fall Trek to Europe under leadership of Clair W. Ditchy, F.A.I.A.

Sept. 11-20: Building Research Congress, with headquarters at Institution of Civil Engineers, London. Details from: The Organising Secretary, Build-

(Continued on page 256)



ROMANY TILES
ARE REAL TILES

FOR BETTER CORRIDORS

ALL WALLS TILED WITH
Romany Real Clay Tile

In Hospitals, Schools, Public Buildings of all kinds, ROMANY Real Clay Tile not only assures attractive appearance, but provides a most durable wall covering that is easiest to clean, easiest to keep sanitary. ROMANY enjoys the fullest confidence of leading architects and contractors. No better tile is available. ROMANY is worthy of your specification by every evaluation.

Ask for Sample Chart No. 6

UNITED STATES QUARRY TILE CO
Member: Tile Council of America
217-H FOURTH ST. N. E.
CANTON 2, OHIO

HOMASOTE presents

the NOVA Roller Door

—the silent, fingertip flush door
for passage ways and closets

—developed through two years of
constant research and field testing

Highest in quality . . . simple and inexpensive
to install . . . silently responding to fingertip
control . . . here is the roller door as you knew
it would one day be perfected.

This is a hollow core, flush door—regularly
sold in unselected gum, paint grade—which
can be painted or stained for many
beautiful effects—Black Walnut, African
Mahogany, Birch, Red or White Oak.

Nova Roller Doors are light, strong and warp-
resistant. They are ideal for closets,
basement storage, garage storage, storage
walls and removable partitions.

The closet may be one of the standard sizes—
or extend the width of the room. Two or
more doors enclose it entirely. Instead of
opening only part of the closet, as with a
swinging door, you have full access. And—you
don't waste the valuable floor space needed
to accommodate a swinging door.

The Nova Roller Door comes cartoned with
special side jambs, head and floor tracks and all
hardware installed. In less than one hour's
time, one man makes the complete installation.
*Nine standard opening sizes: 32", 36", 40", 48",
56", 60", 72", 84", and 96". Three standard
heights: 6'0", 6'6" and 6'8".*

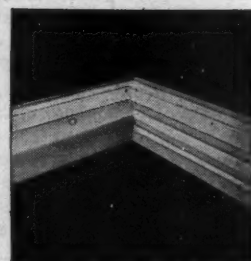
We urge you to write today for the full details.
Kindly include the name of your lumber dealer.



The oak floor track, laid on the finished floor, sets the proper distance between jambs at the bottom. Note rubber bumper on jamb.



Revolving roller guides operate in head track; vulcanized rubber rollers in floor track — assuring silent, fingertip control.



Side jamb (left) is routed to receive the door; head track (right) is accurately machined for perfect operation of revolving roller guides.

NOVA SALES

Co.

TRENTON 3, N. J.

A Novasco Product



A wholly owned subsidiary of the Homasote Company, manufacturers of the oldest and strongest insulating-building board, Wood-textured and Striated panels.



THE RECORD REPORTS

(Continued from page 254)

ing Research Station, Bucknalls Lane, Garston, Watford, Herts, England.

Sept. 23-30: Second Annual Congress, Union Internationale des Architectes — Rabat, Morocco.

Sept. 29-Oct. 9: Building and Decoration Exhibition, sponsored by N. V. Standaard Boekhandel — Antwerp, Belgium.

OFFICE NOTES

Office Openings

• Gordon Ryan Arnott, Architect, M.R.A.I.C., has announced the opening of his own office for the practice of architecture at 3-611 Seventh Ave. W., Cal-

gary, Alberta, Canada. Mr. Arnott was formerly with Rule, Wynne & Rule, Architects.

• Alfred Clauss, formerly with George Daub, Architect, of Philadelphia, has opened his own office for the practice of architecture in Wallingford, Pa.

• M. Warner Kley, former head of the department of store planning and design in the New York office of Raymond Loewy Associates, has announced the opening of architectural offices at 50 E. 86th St., New York City. Mr. Kley, who had been with Raymond Loewy since 1940, earlier was consulting architect to the U. S. Public Buildings Administration in the design of the War Department Building, now used by the State Department, and was also responsible for the design of the federal buildings at the New York World's Fair.

• Alvin Lustig announces the opening of his office for the practice of design at 16 E. 40th St., New York 16, N. Y.

New Firms, Firm Changes

• Biberstein & Bowles, Inc., Architects & Engineers, have announced a change in the corporation's name to Biberstein, Bowles & Meacham, Inc. Offices of the firm are at 1600 Elizabeth Ave., Charlotte, N. C.

• A. F. Bordleau and James B. Pannell have formed a partnership to be known as Bordleau-Pannell, Architects, with offices at 410 8th St. N., P.O. Box 1163, Great Falls, Mont.

• Ramey, Himes & Buchner, Architects, have announced that the firm will now be known as Ramey and Himes, Architects, with offices at 1206 E. Waterman, Suite 210, Wichita 2, Kas. Mr. Buchner has established his office at Tulsa, Okla.

• Walter Sanders and Arthur Malsin announce that Don Reiman has become a partner in the firm, which will be known as Sanders, Malsin & Reiman, with offices at 1 E. 42nd St., New York City, and 309 S. State St., Ann Arbor, Mich.

• Richard L. Tully, A.I.A., and Frederick H. Hobbs Jr., A.I.A., have announced the formation of a new partnership for the practice of architecture. The firm will be called Richard L. Tully and

(Continued on page 258)

Let's shed a
little light on

Piping Costs

When installing drain pipe for handling corrosives, there are three cost factors to consider: (1) the original cost of the pipe, (2) the labor cost of installation, and (3) the number of times, in the life of the building, these costs will occur.

With non-permanent pipe, replacement may be necessary if corrosive conditions are severe. With DURIRON acid-proof drain pipe, which does cost more, the labor cost of installation is exactly the same as for less permanent pipe . . . and this money never has to be spent again.

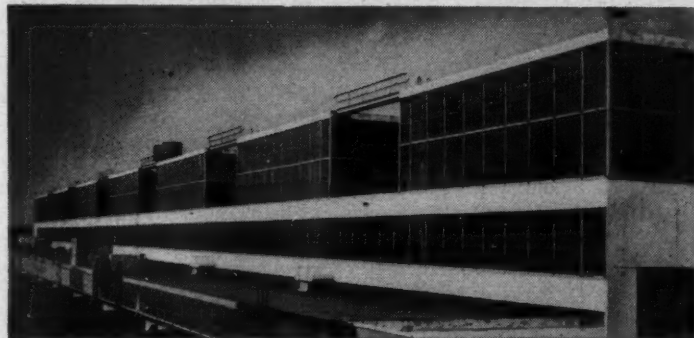
This permanence offers long-term economy . . . the kind that makes your service most valuable. Specify DURIRON Acidproof Drain Pipe. Write for full details.



THE DURIRON COMPANY, Inc.
Box 1019, Dayton 1, Ohio



Designed and built by The Glenn L. Martin Co. for destruction of enemy denizens of the deep, this P-5M-1 Marlin anti-submarine sea-plane is one of many being readied for use by the U. S. Navy.



West elevation of The Glenn L. Martin Co's "B" building glazed with Coolite, Heat Absorbing and Glare Reducing Glass.



Interior view of Coolite in a southern exposure. Note even distribution of soft, comfortable daylight.

Prominent Aircraft Manufacturer Selects **COOLITE** Heat Absorbing and Glare Reducing **GLASS**

Over 90,000 sq. feet Glazed in Three Exposures in Glenn L. Martin Buildings

Appreciation of the vital role played by regulated daylighting in keeping production at high level prompted management of The Glenn L. Martin Company to explore thoroughly the advantages of heat absorbing and glare reducing glass for its huge plant in Baltimore, Md.

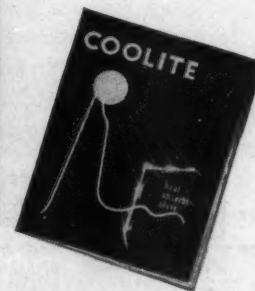
Following conclusive tests, Coolite was specified in "B" and "C" buildings where it has since demonstrated its ability to control sunlight and solar heat to meet exacting requirements.

According to Martin Company executives, Coolite, Heat Absorbing and Glare Reducing Glass admits maximum natural light while excluding blinding sun rays that cause eye fatigue and lead to inefficiency and production declines.

In buildings glazed with Coolite, glare reduced, there have been no complaints from workers due to sunlight glare. Yet on bright days electric lights can be completely shut off in the final assembly areas. As a result, the company considers Coolite glass indispensable in all the south, west and east exposures of its buildings.

Like many others you too may find that whether used in new construction or modernization, Coolite, Heat Absorbing and Glare Reducing Glass can provide increased efficiency and economy. For details, see your nearby Mississippi Glass distributor.

Rolled, Figured and Wired Glass by Mississippi is "Visioneered" for better daylight illumination. Available in a variety of patterns and surface finishes, all scientifically designed to distribute light to best advantage.



MISSISSIPPI *Glass* **COMPANY**

88 ANGELICA ST. SAINT LOUIS 7, MO.

NEW YORK • CHICAGO • FULLERTON, CALIF.

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

Send for free catalog,
"Coolite Heat Absorbing
and Glare Reducing Glass."
Samples on request.

THE RECORD REPORTS

(Continued from page 256)

Frederick Hobbs Jr., Architects, and offices are at 582 Oak St., Columbus 15, Ohio. The partnership of Tully, Hobbs & Hansen, Architects, has been dissolved.

• Richard E. Dougherty, former vice president of the New York State Realty & Terminal Company, in charge of Grand Central Terminal real estate, has

left New York Central to engage in private practice as a consulting engineer. He will act as consultant for the firm of Seelye Stevenson Value & Knecht, consulting engineers, and will have offices with them at 101 Park Ave., New York City. Mr. Dougherty was president of the American Society of Civil Engineers in 1948 and president of Engineers Joint Council in 1949.



FOR LOWER
MAINTENANCE
SPECIFY *Pella*
VENETIAN BLINDS

Neat, efficient Pella Venetian Blinds are the logical choice in blinds for commercial and institutional use because Pella's many quality features minimize maintenance problems. Highest standards in the selection of materials, ingenious designing and expert workmanship combine to make Pella Venetian Blinds the preferred choice of architects today.



Write for new **FREE BOOK** on "Pella Venetian Blinds" for commercial and institutional applications.

ROLSCREEN COMPANY
Department C-36, Pella, Iowa

Without obligation, please send **FREE** new booklet "Pella Venetian Blinds."

NAME _____

FIRM NAME _____

ADDRESS _____

CITY & STATE _____

STATE _____

Pella's
**QUALITY FEATURES
SOLVE BLIND
MAINTENANCE
PROBLEMS . . .**

- Fully Enclosed Headmember
- Slip Proof Tilting
- Positive Locking Control
- Long-Lasting Nylon Cords
- All Types of Slats
- Custom Made

10 YEAR GUARANTEE
All of Pella's Metal Headmembers are guaranteed for ten years. In case of defect, a new Headmember will be furnished.

New Addresses

The following new addresses have been announced:

Altenhof and Bown, Architects, 1226 Park Bldg., 351 5th Ave., Pittsburgh 22, Pa.

Barovetto and Thomas, Architects, 718 Alhambra Blvd., Sacramento, Calif.

Jorge Christlieb, Architect, Salvatierra 65, Mexico, D.F., Mexico.

H. C. Clepper, Architect, 5316 Ellsworth Ave., Pittsburgh 32, Pa.

Arthur Deimel, Architect, Jamestown Rd., South Charleston, Ohio.

O. J. Gette, Architect, 18 S. Broadway, Yonkers, N. Y.

Arthur Heeney, Jr., Architect, 262 Beresford Ave., Toronto, Ont., Canada.

Jyring & Jurenes, Architects, 1932 5th Ave. E., Hibbing, Minn.

Damon Runyan, Consulting Engineer, 8592 W. Colfax, Longmont, Colo.

Wenslao A. Sarmiento, Architect, Camana 631, Of. 611, Lima, Peru, South America.

George Herbert Smith, Architect, 440 Franklin St., Buffalo 2, N. Y.

Walter Wisznia, Architect, 2709 Swantner Dr., Corpus Christi, Tex.

Victor L. Wulff, Architect, 1526 W. Riverside Ave., Spokane, Wash.

York Engineering and Construction Co., 951 Penn Ave., Pittsburgh, Pa.

Hare and Hatch, Architects, 125 Broad St., New York 4, N. Y.

AT THE COLLEGES

Institute for Urban Studies Is Founded at Pennsylvania

Basic research on cities and their problems generally and community service through specific studies of the Philadelphia area are the dual aims of the University of Pennsylvania's new Institute for Urban Studies.

The Institute has been formed of faculty members drawn from many departments of the University. Its work will begin at the start of the school year next September, when the University's program of professional instruction in city planning also will be inaugurated.

Forming the nucleus of the Institute will be the faculty of the University's new Department of Land and City Planning. Robert B. Mitchell has been named chairman of the Department, professor of city planning and director of the Institute programs. Mr. Mitchell, who was

(Continued on page 260)



New Apartment Hotel in New York — This 15-story-plus-penthouse apartment-hotel, occupying the west blockfront of New York's Madison Avenue between Sixty-first and Sixty-second Streets, is known as The Carlton House. It has 166 apartments, each equipped with serving pantry and service vestibule. It has a cocktail lounge, men's bar, and dining facilities. In some respects The Carlton House is patterned after the old Ritz-Carlton Hotel, and it has virtually the same staff which operated that famous structure. Its limestone and red-brick exterior covers a steel framework of Bethlehem Structural Shapes. *Contractor:* John Lowry, Inc., New York; *Architect:* Kenneth B. Norton, New York; *Structural Engineer:* Sydney Frieman, New York; *Steel Fabricator and Erector:* Lehigh Structural Steel Co., Allentown, Pa.



THE RECORD REPORTS

(Continued from page 258)

from 1942 to 1948 executive director of the Philadelphia City Planning Commission, has been research professor at the Institute for Urban Land Use and Housing Studies, Columbia University. He was formerly head of the urban section of the National Resources Planning Board.

Also active in the program will be Dean G. Holmes Perkins of the School

of Fine Arts. Dean Perkins, who went to Pennsylvania last February from his post as chairman of the Department of Regional Planning at Harvard, was instrumental in establishing the new department and the Institute.

Others who will contribute to the new undertaking include Lewis Mumford, professor of regional planning, author of "Sticks and Stones," "Culture of Cit-

ies" and other works and for many years an architectural critic for the *New Yorker*, and Miss Blanche Lemco, as an instructor in city planning.

Dr. Eric A. Walker Is Named Penn State Engineering Dean

Dr. Eric A. Walker has been named dean of the School of Engineering at the Pennsylvania State College.

Doctor Walker, who has been executive secretary of the Research and Development Board of the Department of Defense, succeeds Dr. Harry P. Hammond, dean of the school since 1937. Doctor Hammond will retire with emeritus rank on September 1.

For the past year, Doctor Walker has been on leave from his position as director of the Ordnance Research Laboratory at Penn State and professor and head of the Department of Electrical Engineering at Penn State.

Dean Hammond had taught for 24 years at Polytechnic Institute of Brooklyn before his appointment to Penn State in 1937.

California Polytechnic Names Architect as Engineering Dean

Ralph B. Priestley, head of the department of architectural engineering at California State Polytechnic College, has been appointed dean of the school's Division of Engineering.

Mr. Priestley, a graduate in architectural engineering of the University of Illinois in 1936, has headed the college's department of architectural engineering since 1948.

Mr. Priestley was responsible for planning of the postwar building programs for Cuneo Press, Inc., one of the nation's largest printing companies.

Awards

• William Stoutenburg of the University of Illinois, Urbana, Ill., has been awarded the 1951 Lloyd Warren Scholarship, representing the 38th Paris Prize in Architecture.

The award, announced by the Committee on Scholarships of the Beaux-Arts Institute of Design, carries a stipend of \$5000 for study of architecture abroad and in the U. S. Kirk R. Craig of Clemson Agricultural College, Clemson, S. C., was named as alternate.

The award is based on a nationally conducted competition in three stages.

(Continued on page 262)

**Better Colors
More Color Choice**

With Premium Quality, Grease Resistant

AZPHLEX

ASPHALT TILE

The through-and-through beauty of AZPHLEX grease-resistant asphalt tile won't fade or wear away, even after years of hard and constant service. Pigmentation is all the way through every tile, from top to bottom—protected by the tough, fine texture that gives AZPHLEX its remarkable resistance to indentation and abrasion.

AZPHLEX demands nothing more than routine maintenance to keep its new-floor beauty through many long years.

Highly Resistant

to greases, fats, oils, soaps and compounds

Tough Surfaced

for increased resistance to indentation and abrasion

Wide Color Range

15 clear, permanent colors

Moderate Price

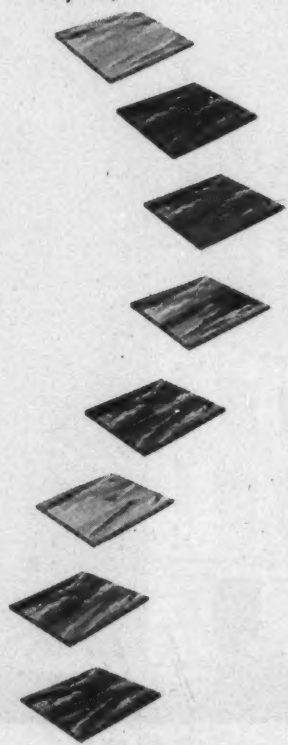
is only a few cents more a square foot than ordinary asphalt tile

For a floor that gives maximum service—look to AZPHLEX!

For complete information see or call your flooring dealer or contractor—or write to Dept. C

UVALDE ROCK ASPHALT CO.

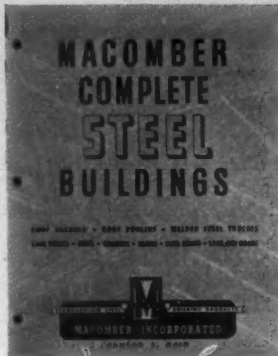
Makers of AZPHLEX and AZROCK Asphalt Tile
FROST BANK BLDG. • SAN ANTONIO, TEXAS



SEE SWEETS' 1951
CATALOG FOR
COLORS AND SIZES

MACOMBER

FABRICATES



HELPFUL
INFORMATION
FOR ANY ONE
INTERESTED
IN PLANT
DESIGN



AND ERECTS



ENGINEERS

THIS is where your job begins—in an organization known for its contributions to engineered construction. This modern, air conditioned drafting room is typical of Macomber Engineering Department facilities where design standards are effectively coordinated into the most economical structural framing plan.

Within the overall responsibility of the Architect and the Contractor is the design and erection of **THE STEEL**.

Our major objective throughout the broad field of engineered construction is to handle this job in a manner that repeatedly lays this entire responsibility in our lap.

From your standpoint, the whole steel framing job is wrapped up in a one-source contact.

You have a staff of construction engineers ready to pitch in and detail your framing plan—engineers who can usually reduce costs with standardized members and control fabrication of each unit—direct to the job.

Men, long in the construction industry, like the way Macomber handles **THE STEEL**. Call us.



THE COMPLETE STEEL STRUCTURE

Send for "Complete Steel Building" Booklet



STANDARDIZED STEEL BUILDING PRODUCTS

MACOMBER • INCORPORATED

CANTON, OHIO

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK

THE RECORD REPORTS

(Continued from page 260)

Subjects of this year's competitions were a college art museum (24 hours), a furniture showroom (48 hours) and a bus terminal (one week).

- Ludwig Mies van der Rohe, director of the Department of Architecture at Illinois Institute of Technology, has been awarded an honorary doctor of engineering degree by the Technische Hochschule of Karlsruhe, Germany. The degree was

presented at ceremonies in Chicago by Konrad Wachsman, professor of advanced building research at Illinois Tech's Institute of Design.

- David B. Steinman, engineer who designed the Triborough and Henry Hudson bridges in New York City and the Thousand Islands International Bridge across the St. Lawrence River among many others, has been awarded the



HERE'S AID TO ARCHITECTS and ENGINEERS in planning SOUND SYSTEMS!

ARCHITECTS and their engineers are invited to make full use of the experience of RCA Sound System engineers and the great RCA research and engineering laboratories, in planning and engineering sound systems.

You can get practical help on sound systems for every type of building: Schools ... Hospitals ... Hotels ...

Factories and Offices ... Churches ... Department Stores ... Airports and Terminals ... Warehouses and Garages ... Auditoriums ... Recreational Centers ... Institutions ... Stadiums.

Call on RCA Sound System engineers while your plans are still in formative stage. *No obligation, of course.*



SOUND PRODUCTS
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N.J.

R-3

Please have one of your sound system engineers call on us.

NAME _____
FIRM _____
STREET _____
CITY _____ STATE _____

Egleston Medal for 1951 by the Engineering School Alumni Association of Columbia University.

Faculty Appointments

- The Department of Architecture of the University of Pennsylvania School of Fine Arts has announced the following additions to its staff: Robert L. Geddes, instructor; Leon Loschetter, assistant professor; Mrs. Matthew Nowicki, assistant professor in charge of a new course in basic design.

- Among promotions recently announced on the faculty of the Massachusetts Institute of Technology were these: Lloyd Rodwin, department of city and regional planning, from assistant professor to associate professor; Werner H. Gumpertz and Herman C. Fischer, both of the department of building engineering and construction, and Robert B. Newman of the department of architecture, to the rank of assistant professor; and Frederick J. McGarry, department of building engineering and construction, to the rank of instructor.

ELECTIONS APPOINTMENTS

- The following architects have been elected to associate membership in the National Academy of Design: Alfred Geiffert Jr., New York; Albert Harkness, Providence, R. I.; George Howe, New Haven; Frederic R. King, New York.

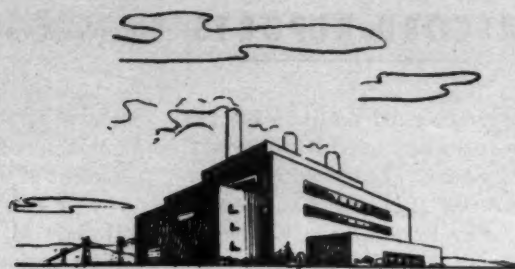
- Wallace K. Harrison, Architect, was among five new trustees recently elected by the Twentieth Century Fund, a non-profit foundation for scientific research and public education on current economic problems.

- Carlton S. Proctor of New York has been nominated for 1952 president of the American Society of Civil Engineers. Mr. Proctor, a member of the consulting firm of Moran, Proctor, Freeman & Mueser, is chairman of the Construction Division of the United States Chamber of Commerce.

- Appointment of I. W. Cotton, president of the I. W. Cotton Co., Inc., of Indianapolis, Ind., as chairman of the committee on research of the American

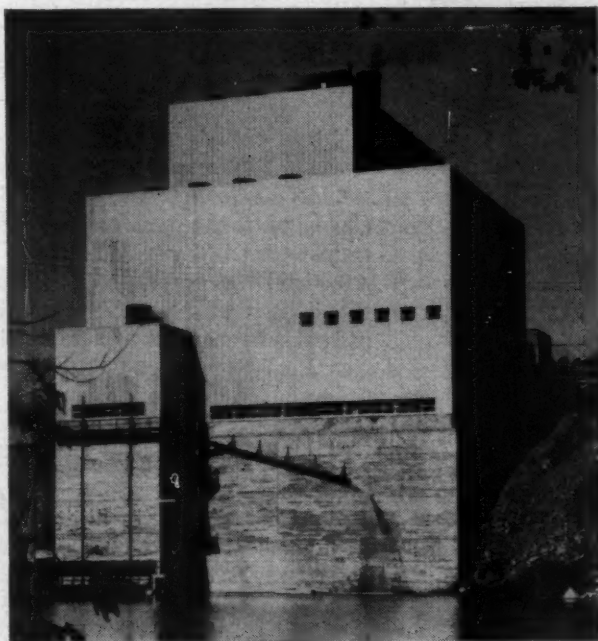
(Continued on page 264)

Q-PANELS



PERFECT FOR POWERHOUSES

Northern Virginia Power Co., Riverton, Va.
Designed and built by Sanderson & Porter, Inc. Chapman, Evans
& Delahanty, Associate Architects.



Every feature of a Q-Panel is a desirable feature for powerhouse construction . . . which explains why Q-Panels have captured the powerhouse market.

Q-Panels go up fast—50 sq. ft. in 9 minutes. A small crew quickly attaches the panel to the steel framework. Little blocks don't pile up fast. *It's much quicker to hang a wall than to pile it up.*

Q-Panels provide a maintenance-free exterior; they are available in a variety of materials for exterior finishes, depending on their availability at time of ordering.

A Q-Panel is an insulated metal sandwich, only 3" thick but with insulation value greater than a 12" masonry wall.

The striking fluted surface of Q-Panels is now a familiar sight on powerhouses from coast to coast.

Write for Q-Panel Catalog

H. H. ROBERTSON CO.

Factories in Ambridge, Pa.; Hamilton, Ontario; Ellesmereport, England.

2404 Farmers Bank Building
Pittsburgh 22, Pennsylvania



Offices in ALL Principal Cities
in the U. S. A. and Canada

World-Wide Building Service

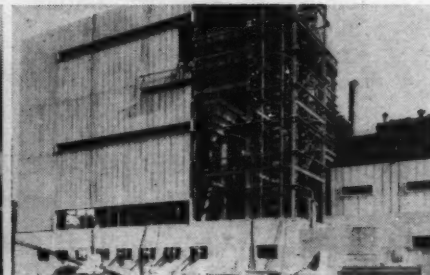
Iowa Public Service Co., Eagle Grove, Iowa
Designed and built by Iowa Public Service
Engineers and J. F. Pritchard & Co.



Tennessee Valley Authority Watauga Project
 Elizabethton, Tenn.



Note clean, quick, dry, safe,
curtain-wall construction.



THE RECORD REPORTS

(Continued from page 262)

Society of Heating and Ventilating Engineers has been announced by President Lauren E. Seeley. The committee plans and supervises the society's research program at its laboratory in Cleveland and at cooperating colleges and universities where the A.S.H.V.E. has made a grant of funds or established a fellowship. Richard S. Dill, chief of the Heating, Ventilating and Air Conditioning

Section, National Bureau of Standards, Washington, D. C., was reappointed vice president of the committee.

- Herbert M. Leppich has been named project engineer for construction of the chemical processing plant at the Reactor Testing Station and Idaho Operations Office of the Atomic Energy Commission.

- The Walker Art Center of Minneapolis has announced that William M. Friedman, assistant director, has been appointed acting director. D. S. Defenbacher, the director, is on leave of absence for one year from April 1.

- Commissioner Franklin D. Richards of the Federal Housing Administration has announced the appointment of David W. Cannon as state director for Utah, succeeding Gordon Weggeland, resigned, and the appointment of Patterson B. Walker as acting director for Kentucky to succeed Roscoe R. Dalton, who has also resigned.

- Vice Admiral John J. Manning (CEC), USN, Ret., has been elected president and director of James Stewart & Co., Inc., engineering and construction firm with offices in New York, Chicago, Washington and Dallas. He will be in charge of all operations of the 107-year-old organization, which was recently purchased by M. Seth Horne and Associates. Admiral Manning was formerly chief of civil engineers and chief of the Bureau of Yards and Docks of the Navy Department.

- Merritt-Chapman & Scott Corp. has announced three executive appointments of veteran employees: William Denny, to be vice president in charge of the company's Marine and Heavy Construction Division; Alfred M. Heaton, to the newly-created post of resident vice president, in charge of operations in the New England area; and Fletcher Martin, to the post of secretary.

- Faye Evans of New York, construction engineer, has been appointed vice president of John W. Harris Associates Inc., builders. Mr. Evans will be in charge of European operations for the Harris organization and will make his headquarters in France.

- Chairmen of six regional committees were announced recently by the National Constructors Association, an organization composed of firms engaged in the design and construction of chemical plants, steel mills and oil refineries on a large scale.

The chairmen and the companies with which they are associated are: J. F. O'Neill, Chemical Construction Co.,

(Continued on page 266)



SHOPPING FOR EXHIBIT CASES ?

BUYERS of exhibit cases everywhere are choosing Michaels "Time-Tight" Cases because they are tops in design, quality, structural features, appearance and usefulness.

Michaels cases offer Innerlocking Frames, an exclusive feature; fully mitered intersections; no screws exposed on face of frames, and other structural advantages.

These cases are designed for maximum visibility; to enhance the appearance of exhibits; to eliminate handling and theft as well as the ingress of dust, vermin and moisture. They are made in a wide variety of styles (table, aisle, wall, corner, suspended and recessed) and in any practical size to take care of virtually all exhibit requirements. If it is necessary to meet specific needs, Michaels will design and build special cases to your specifications. "Time-Tight" Cases are used extensively in museums, art galleries, libraries, universities, colleges, schools, clubs, banks, federal, state and municipal buildings, laboratories, institutions and various industrial and related types of display rooms.

Write for literature.

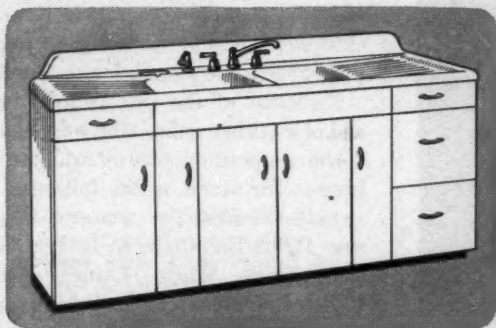
MUSEUM CASE DIVISION OF

The MICHAELS ART BRONZE CO., Inc., 234 Scott St., Covington, Ky.

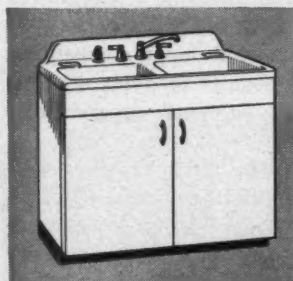
Manufacturers since 1870 of many products in Bronze, Aluminum and other Metals



DELAFIELD K-5610-A.
32 x 21", 42 x 21".

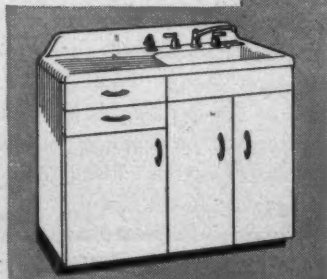
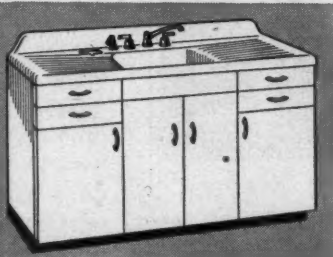


WILSHIRE K-5505-A. 60 x 25", 72 x 25".



WELLWIN K-5595-A.
42 x 25".

CAMBERLEY K-5555-A.
54 x 22", 54 x 25", 60 x 25".



CYMBRIA K-5576-A. 42 x 22",
42 x 25". (Sink at left, K-5575-A.)

KOHLER

First Quality

Enameled Iron Sinks

The Delafield, popular for average homes and apartments, has a flat rim for building-in, roomy basins; the Wilshire, Wellwin, Camberley and Cymbria offer choice of double or single compartment sinks with or without drainboards, in various sizes. All have convenient full-length ledges with integral soap dishes, swing spout mixing faucets, lever-control sprayers. Duostrainers with removable cups assure positive drain control.

Kohler sinks are of non-flexing iron, cast for rigidity, coated with acid-resisting, easy-to-clean enamel. Fittings are of chromium-plated brass, engineered for long life.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION PARTS

THE RECORD REPORTS

(Continued from page 264)

East Coast Regional Committee; W. S. Scherffius, Koppers Co., Engineering and Construction Division — Great Lakes; L. N. Burke, Lummus Co. — Gulf Coast; J. E. Baugh, Ford, Bacon & Davis Construction Corp. — Mid-Continent; F. R. Stevens, Stone & Webster Engineering Corp. — Southeast; and J. F. O'Connell, Bechtel Corp. — West Coast.

AWARDS

• Two gold medals instead of the customary single prize were presented by the Architectural League of New York at its Gold Medal Mural Painter's dinner last month.

Dean Cornwell received one of the awards in recognition of his overall work

— "for his intelligent enhancement of many public buildings that has been carried out with brilliant draftsmanship and talent for inventive composition."

Sante Grazziani of North Haven, Conn., received the other award, which has been presented only once before since it was established in 1909. Mr. Grazziani's medal was for his composition of a painting in the Museum of Fine Arts at Springfield, Mass. The citation praised the painting as having achieved "through the masterly organization of form, line and pattern, an elevation of spirit, and made it truly distinguished." The painting shows grouped figures symbolizing the cultural activities of the community as sponsored by the museum.

Mr. Cornwell has executed murals for the Lincoln Memorial in California, the county courthouse of Nashville, Tenn. and the Eastern Air Lines Building in New York, among many others. Mr. Grazziani is an instructor at the Yale University Art School and dean of the Whitney School in New Haven. He has executed post office murals in Iowa and Ohio and is now at work on paintings for the public library in Holyoke, Mass.

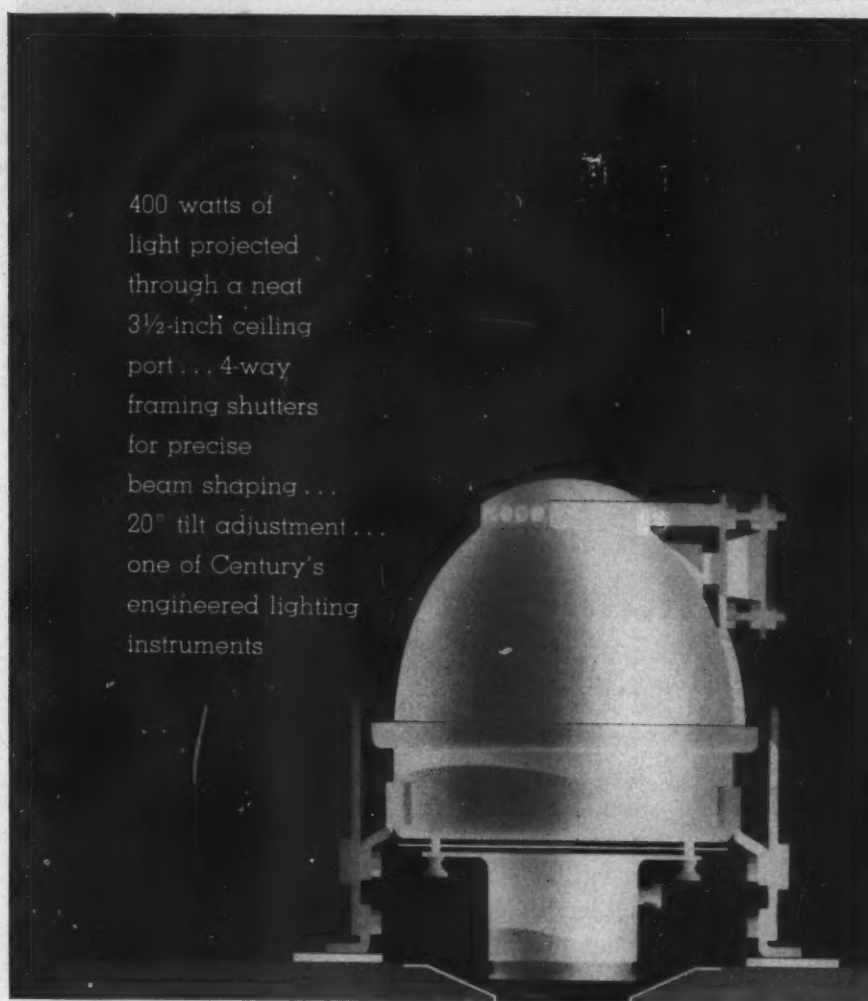
Paintings of the two award winners and of six other artists who were finalists in the competition were on exhibit at the League for three weeks following the awards. Besides the winners, finalists were Pierre Bourdelle, R. H. Ives Gammell, Lucia Wiley, Lumen Winter, Joseph L. Young and Buell Mullen.

• The American Institute of Decorators gave four Citations of Merit in the 1950 version of the good design competition for home furnishings products it sponsors each year. No award was given in a fifth category — wallpaper.

Harry Lawenda of San Francisco won the furniture award for a sofa with iron frame and sponge rubber upholstery, executed by Kneeder-Fauchere, San Francisco. The floor covering award went to Virginia Hamill of New York, for a nylon Wilton weave broadloom carpeting, executed by Nye-Wait Co., Inc., Auburn, N. Y. Paavo Tynell of Helsinki, Finland, won the lighting award for a brass ceiling fixture imported by Finland House, New York. Karl Laurell of Poughquag, N. Y., designed and executed the winning material, a hand-loomed nylon, linen, silk and Cellophane casement fabric.

The awards were presented at a dinner at the 20th anniversary conference of the A.I.D. in Grand Rapids May 1. The

(Continued on page 268)



400 watts of
light projected
through a neat
3½-inch ceiling
port... 4-way
framing shutters
for precise
beam shaping...
20° tilt adjustment...
one of Century's
engineered lighting
instruments

CENTURY

CENTURY LIGHTING, INC.,
521 WEST 43RD STREET,
NEW YORK 18

626 NORTH ROBERTSON
BOULEVARD,
LOS ANGELES 46

ANOTHER CASE OF *Copper where it Counts!*

• Copper doesn't "happen" to be specified for roofs like the one on this building of the Automobile Club of Michigan. Copper gets the call over other materials because it has been proved, down through the centuries, that it endures, is easily worked, requires little if any maintenance and when aged adds a touch of distinction to the building it shelters.

While utility was the prime consideration for the material to be selected, for the central roof section, beauty of design and how it would look after years of service, also entered into the picture. For, this building was to be erected in a fine residential neighborhood and it couldn't be labeled "commercial." Copper filled these specifications.

Although copper cannot now be used for roofing, we use the Automobile Club of Michigan installation as a means of reminding you of the merits of Revere Copper over other materials so that when copper once more is permitted for roofing you will again use it, and with confidence. Meantime remember, while limited, you can still get Revere Sheet, Strip and Roll Copper for flashing. For through-wall applications ask the Revere Distributor about Revere Keystone Thru-Wall Flashing.* He also will advise you of the availability of materials and put you in touch with Revere's Technical Advisory Service in the event you wish to discuss your technical problems.

*Patented

THIS BUILDING is another example of using "Copper Where it Counts." Architects were O'Dell, Hewlett & Luckenbach; General Contractor, Barton Malow; Lentz & Chaffee were the Sheet Metal Contractors, while the copper was supplied through Copper and Brass Sales, Inc., Revere Distributor. All are located in Detroit, Michigan.



ABOVE CLOSE-UP of the central roof section of the building housing the Automobile Club of Michigan, Grosse Pointe Park Division, shows how enduring Revere Copper was applied.

REVERE 150th YEAR OF SERVICE TO AMERICA
COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y. — Sales Offices in Principal Cities, Distributors Everywhere

SEE "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

THE RECORD REPORTS

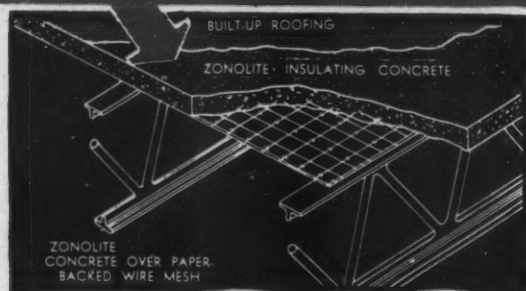
(Continued from page 266)

winning entries, plus those awarded honorable mentions and 32 others, then were put into a traveling exhibit with 1950 winners in two other A.I.D. annual competitions.

Two architects were on the seven-member jury. They were Robert Carson of the architectural firm of Carson & Lundin, New York, and George Howe, chairman of the Department of Architecture, Yale University. Other jury

members were Nancy V. McClelland, New York interior designer, foreman; Everett Brown of Everett Brown Associates, Chicago designer and decorator; G. M. Halverson, senior merchandise manager of the Home Store, L. S. Ayres & Co., Indianapolis; William MacArthur, designer and decorator, Milwaukee; and Robert R. Young, Division of Education, Carnegie Institute, Pittsburgh.

Combine Roof Deck and Insulation—in One Operation



Construction details of the H. L. Green Dept. Store roof in Columbus, Ohio. Paper backed wire mesh was laid across the structural members and 3" of Zonolite vermiculite concrete poured over it. No other reinforcing was required.



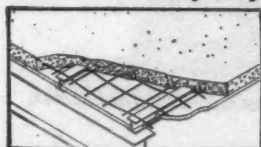
Build Lightweight Lifetime Roofs With ZONOLITE® Insulating Concrete!

Combine two operations in one on your next roof deck by building insulation right into the roof itself. Zonolite concrete combines roof deck and insulation in one operation, permitting major savings in time and labor. Made with lightweight Zonolite vermiculite aggregate, this insulating concrete contains millions of tiny air cells which offer tremendous resistance to the passage of heat and sound. Zonolite concrete weighs between 25 and 35 lbs., or only about 1/4 as much as

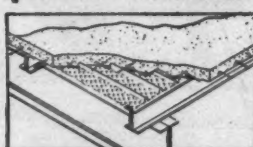
sand-and-gravel concrete. This amazing saving in weight makes possible additional economies in structural steel and other critical materials. Equally important, Zonolite roofs are unaffected by water, vermin, fungus, heat or fire . . . once installed they last the life of the building.

WRITE TODAY FOR DETAILS on Zonolite Insulating Concrete for better, longer lasting, lower-cost insulated roof decks.

Many ways to build short span roofs with Zonolite



Zonolite concrete over fiber or gypsum board forms.



Zonolite Insulating Concrete over high ribbed metal lath.

Write today. Dept. AR-61

ZONOLITE COMPANY

135 S. LaSalle St. Chicago 3, Ill.



Member of Vermiculite Institute

ZONOLITE COMPANY, Dept. AR-61
135 S. LaSalle St., Chicago 3, Ill.

Please rush me booklet CA-5 on the use of Zonolite Insulating Concrete for structural roof decks.

Name.....

Address.....

City..... Zone..... State.....

• Carl A. Menzel of the Portland Cement Association has been given the 1951 award of the Concrete Reinforcing Steel Institute "in recognition of noteworthy contributions to the advancement of reinforced concrete construction." Mr. Menzel received the award for his research and development work on a new type of deformed reinforcing bar, which has a substantially greater bonding strength than plain bars or conventional deformed bars. Mr. Menzel's work resulted in ASTM Specification A305 — the first recognized standard on reinforcing bar deformations.

• E. Vincent Harris, O.B.E., R.A., has received the 1951 Gold Medal of the Royal Institute of British Architects.

COMPETITIONS

• Closing date for the Builders' Competition for the Parents' Magazine Merit Awards for the 1950 Best Homes for Family Living has been extended to July 1.

Awards will be given for the best entries in two price classifications — under \$16,000 and \$16,000 to \$25,000 — for each of five geographical regions. From these ten Merit Awards two will be selected, one from each price classification, for the 1950 National Merit Awards.

Criteria include excellence of plan, in terms of arrangement, use of space, etc.; orientation on site and usefulness of site for family outdoor activities; intelligent use of manufactured materials and products; structural soundness and quality of workmanship.

The Jury of Award will include Richard Bennett, A.I.A., of Loeb, Schlossman & Bennett, Architects; the president of the National Association of Home Builders, William P. Atkinson; William H. Scheick, A.I.A., executive director of the Building Research Advisory Board of the National Research Council; Mrs. Maxine Livingston, Family Home editor, *Parents' Magazine*; and five regional advisers to be announced later.

Queries should be addressed to Builders' Competition for Merit Awards, *Parents' Magazine*, 52 Vanderbilt Ave., New York 17, N. Y.

• Seven architects have been chosen from the initial competition among 34

(Continued on page 270)

and Ce-
given the
inforcing
of note-
advance-
construc-
e award
ent work
inforcing
greater
s or con-
Menzel's
ification
andard on

R.A., has
l of the
itects.

s' Com-
Magazine
t Homes
ended to

best en-
— under
00 — for
s. From
will be
lassifica-
l Merit

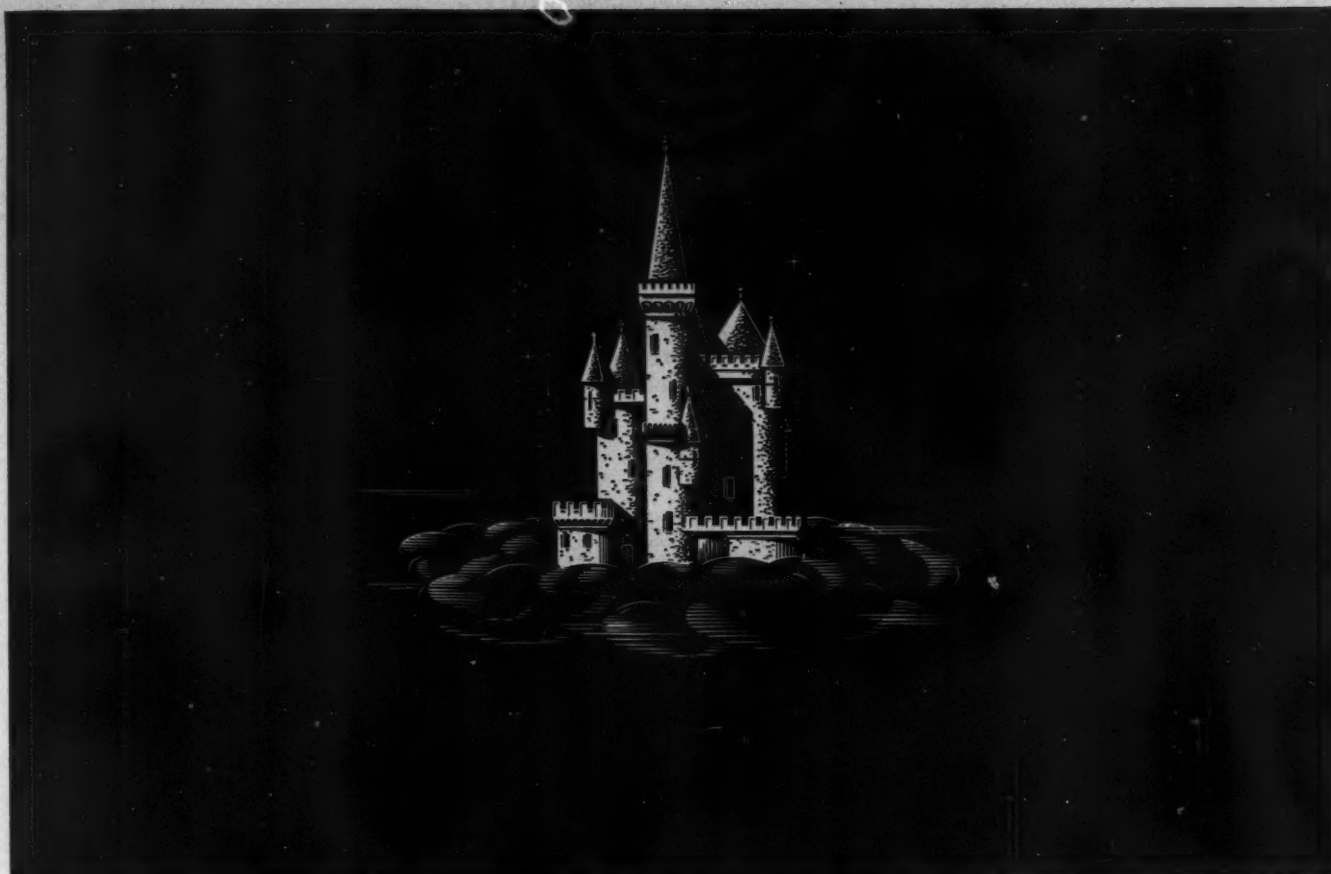
plan, in
ace, etc.;
ss of site
telligent
nd prod-
uality of

de Rich-
Schloss-
ne presi-
ation of
tkinson;
xecutive
rch Ad-
Research
on, Fam-
ine; and
nounced

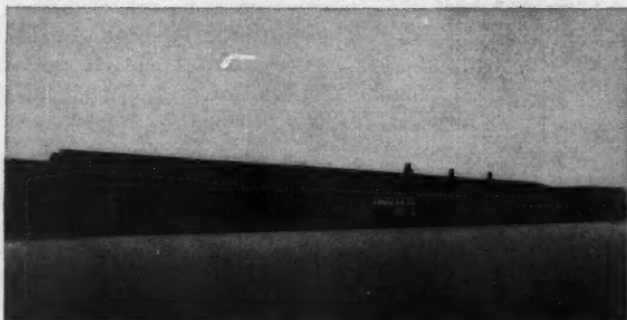
o Build-
Awards,
ilt Ave.,

chosen
mong 34
page 270)

RECORD



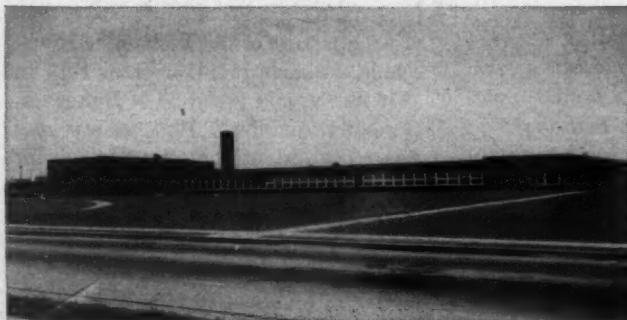
Here's where we live... for a few minutes each day



Eden Prairie School, Eden Prairie, Minnesota has Modu-aire Units for individually-controlled air conditioning in each room.

Architect: Herbert Crommett

Engineer: Scott Whitnah



Abbey Lane School, Long Island, New York has an installation of Unit Air Conditioners.

Architect: F. P. Wiedersum

Engineer: Sears & Kopf

HERE'S A PICTURE of the place where better air conditioning equipment is built... not with tools, machinery or steel, but with the ideas, the brains, the imagination of our designers and engineers.

We like to think of it as our "air castle". It's the place where some of the world's finest air conditioning units had their beginning. It's the place where new improvements and advancements constantly are being planned. It's a place where we continually look to the future... as part of each day's work.

It's another of the reasons why it pays to check with usAIRco whenever you're looking for new and better ideas in air conditioning to put to work for your clients.

UNITED STATES AIR CONDITIONING CORP.
3302 Como Avenue S.E., Minneapolis 14, Minnesota

usAIRco

Everything In Air Conditioning

THE RECORD REPORTS

(Continued from page 268)

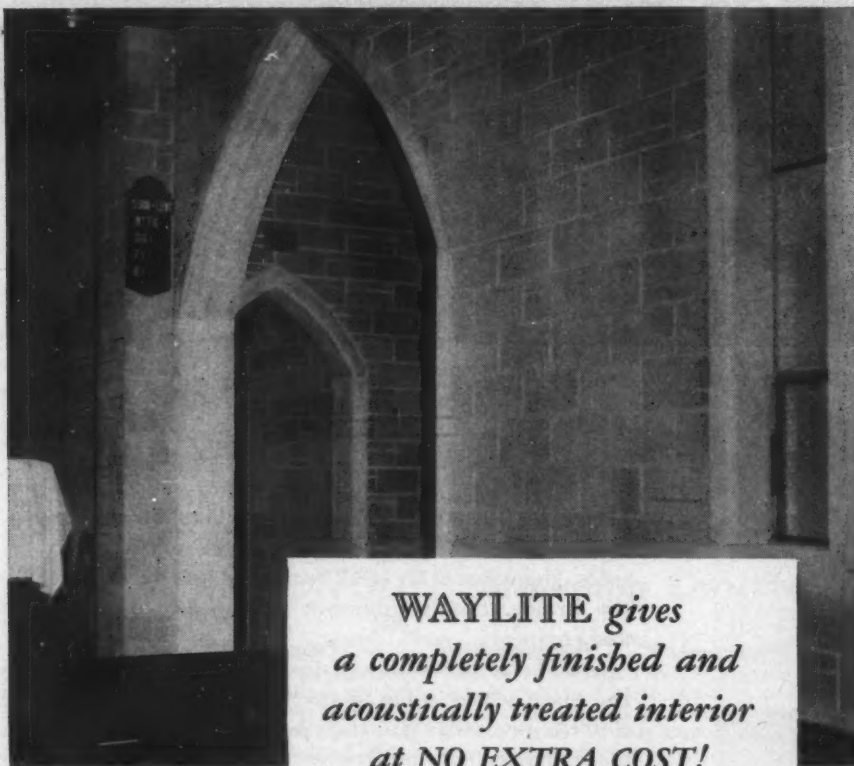
applicants to be the paid competitors in the Virginia War Memorial Competition. Others may still compete, without reimbursement for expenses, by addressing queries to Leslie Cheek Jr., of the Virginia Museum of Fine Arts, Boulevard and Grove Ave., Richmond 20, Va., professional adviser for the competition.

The seven chosen as paid competitors

are: Robert M. Carrere, Roanoke; Charles M. Goodman Associates, Alexandria, Va.; Milton L. Grigg, Charlottesville; Clarence W. Huff Jr., Richmond, with James C. MacKenzie, New York; Merrill C. Lee, Richmond; Joseph H. Saunders Jr., Alexandria; J. B. Viollette, Fredericksburg, with Edward H. Glidden Jr., Baltimore; and Marcellus Wright & Son, Richmond.

WAYLITE interior Zion Evangelical Lutheran Church, Chicago

Architect: Herbert Brand • Contractor: Crouch-Walker



WAYLITE gives
a completely finished and
acoustically treated interior
at NO EXTRA COST!

A Waylite masonry structural wall with the interior surface left exposed provides a 3-fold advantage for many types of structures. The soft lights and shadows of the textured grey surface are attractive. Waylite masonry has a noise coefficient of up to 50% and provides adequate acoustical treatment. It is a very economical architectural treatment because plaster or other finishes are eliminated.

You'll find such walls useful in churches, theatres, schools and many other types of buildings. You pay only for a structural wall and without further cost you have an attractive interior surface—completely finished—and acoustically treated!

For further information address Waylite Company, 105 W. Madison Street, Chicago 2, or Box 30, Bethlehem, Pennsylvania.

WAYLITE
MASONRY UNITS

JAMES OTIS POST DIES; 50 YEARS AN ARCHITECT

James Otis Post, an architect in New York City for 50 years, died April 21 in Waltham, Mass., after a long illness. He was 77 years old.

Mr. Post, a Fellow of the American Institute of Architects, had studied architecture at Columbia University and later received a diploma from the Ecole des Beaux Arts in Paris.

In 1901 he joined George B. Post & Sons and became a partner three years later. He had directed the New York and Cleveland offices for many years.

Buildings designed under Mr. Post's direction include the Wisconsin State Capitol; the Roosevelt Hotel in New York City; the town of Cradock, Va., for the United States Housing Bureau; the National Town and Country Club in Cleveland; the Massena (N. Y.) Municipal Hospital; Samaritan Hospital in Troy, N. Y., and St. Mary's Hospital for Children in Bayside, Queens, now under construction.

Also the Cleveland Trust Company's home office; the Stillman Theater in Cleveland; the International Magazine Building, New York City; the Statler Hotels in Cleveland, Detroit, St. Louis, Boston and Buffalo; Warwick Hotel in New York; Stamford, Conn., Hospital; and Mount Sinai Hospital in New York.

Mr. Post was a leader in programs for educating draftsmen. He was chairman of the Committee on Education of the Society of Beaux Arts Architects and a founder and first president of the Beaux Arts Institute of Design.

KONRAD WITTMANN; HEADED PRATT'S INTERIOR DESIGN

Konrad F. Wittmann, professor of design and head of the Department of Interior Design at Pratt Institute, died April 16. He was 60 years old.

Mr. Wittmann was born and educated in Germany, graduating from the School of Architecture of the Technische Hochschule, Munich, in 1917. From 1919 to 1938 he was city architect of Hannover, Germany, and from 1924 on was also engaged in private practice. He was for 10 years editor of the architectural magazine *Deutsche Bauhuelle* in Hannover.

Mr. Wittmann came to the United States in 1938. A year later he became a registered architect in New York State and a member of the New York Chapter of the American Institute of Architects. Later he became an American citizen.

Advertisement

MODERN BANK BUILDING is typical of up-to-date Houston—one of America's fastest-growing cities.

Building is air conditioned by Frigidaire.

Located 15 blocks from the center of Houston is the new building of the South Main State Bank—designed to keep pace with the needs of this growing Texas community.



LOCATION: Houston, Texas
BALDWIN N. YOUNG, Architect
SOUTH MAIN STATE BANK, Owner



Efficient, yet comfortable, moderately sized, yet spacious, is the banking floor of the two-story building. The second floor houses an insurance firm.

A warmly attractive, yet dignified, simplicity makes this new Houston bank building an excellent example of the modern trend.

And like many modern bank buildings, this new building provides customers with the cool comfort of Frigidaire air conditioning.

Working closely with the building's architect and general contractor, Frigidaire engineers planned an air conditioning system that is simple, effective and troubleproof.

The three Frigidaire compressors that power the system are located in the basement. When the thermostatic control on either of the two floors above calls for cooling, refrigerant is pumped up from the compressors to a cooling unit on that floor. The cooling units are equipped with hot water coils for heating, so the system provides dust-free, air-conditioned comfort all year 'round.

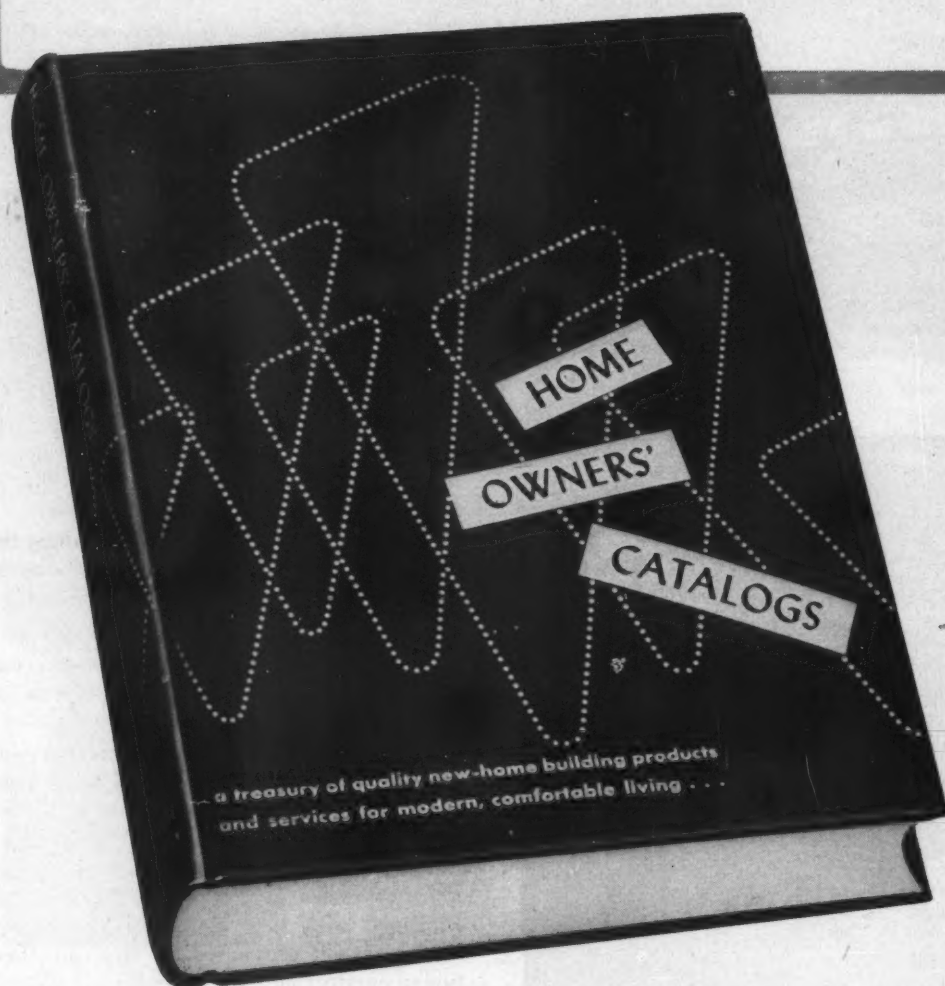
Described by the bank as "highly satisfactory" this is just one of many Frigidaire installations made each year. So, whatever your next air conditioning problem is, why not call your Frigidaire Dealer, Distributor or Factory Branch? Look for the name in the Yellow Pages of your phone book. Or write Frigidaire Division of General Motors, Dayton 1, O. In Canada, Leaside (Toronto 17), Ont.

FRIGIDAIRE America's No. 1 Line of Refrigeration and Air Conditioning Products

Frigidaire reserves the right to change specifications, or discontinue models, without notice.

Refrigerators • Food Freezers • Water Coolers • Electric Ranges
Home Laundry Equipment • Electric Water Heaters • Air Conditioning
Electric Dehumidifier • Commercial Refrigeration Equipment

Home-Planning Families are



FACTS YOU SHOULD KNOW...

Your consumer catalog in this handsome volume will be delivered daily and directly to active home-planners...each one carefully selected and screened.

Your consumer catalog in this volume will be constantly consulted by *known buyers*. Researcher Starch reports: "Readership of individual catalogs in Home Owners' Catalogs ranks among the highest for this type of sales literature of any we have studied."

Your consumer catalog can be in the very next edition of Home Owners' Catalogs. Write to Design and Production Department, Home Owners' Catalogs, for expert guidance in the preparation of your insert.

More and more manufacturers are selling through Home Owners' Catalogs!

These firms know that promotional aggressiveness pays off. Their fact-packed product story in the new Home Owners' Catalogs sells the rich, ripe '51 custom housing market.

American Central Div.—Avco
Mfg. Corp. 4 pages
American Telephone & Telegraph
Co. 4 pages
The Philip Carey Mfg. Co. 8 pages
Chase Brass & Copper Co. 20 pages
Combustion Engineering—
Superheater, Inc. 4 pages
Crane Co. 24 pages
Crosley Div.—Avco Mfg. Corp. 12 pages
Drexel Furniture Co. 8 pages
Elkay Mfg. Co. 4 pages
The Formica Co. 4 pages
Frigidaire Div.—General Motors
Corp. 8 pages

General Electric Co.—
Air Conditioning Dept. 8 pages
General Electric Co.—
Appliance & Mdse. Dept. 24 pages
General Electric Co.—
Construction Materials Dept. 8 pages
General Electric Co.—
Lamp Department 16 pages
Hall-Mack Company 8 pages
The Henry Furnace Co. 8 pages
Hotpoint Inc. 8 pages
Landers, Frary & Clark 8 pages
Libbey-Owens-Ford Glass Co. 32 pages
The Mosaic Tile Co. 4 pages

National Electric Products Corp. 4 pages
The C. A. Olsen Mfg. Co. 8 pages
Pittsburgh Plate Glass Co. 24 pages
Pittsburgh Plate Glass Co.—
Paint Div. 24 pages
Pryne & Co., Inc. 8 pages
Rheem Mfg. Co. 8 pages
The Siskraft Co. 4 pages
Square D Company 4 pages
Truscon Steel Co. 8 pages
The Waterman-Waterbury Co. 8 pages
Westinghouse Electric Corp. 24 pages
Yale & Towne Mfg. Co. 8 pages
Youngstown Kitchens—Mullins
Mfg. Corp. 24 pages

re

Marching to Market

Three Important Questions . . . and Three Factual Answers:

1. How active is the 1951 custom-built housing market?



Extremely active! Matter of fact: A survey of current custom home-planners tells the true tale . . . the market is 98% active. Sure, a sprinkling are changing their plans because of prevailing conditions. But are they abandoning home-building plans? No! Are they postponing their plans? Not appreciably!

They take their time thinking over and solving today's problems, but their plans are not being delayed to any great extent.

2. How vital is this market to you?



Very, very vital! Every custom home-planner must buy or specify building materials, insulation, roofing, windows, plumbing and heating equipment, floor coverings, appliances, furnishings, and 1,001 other new-home products. Every custom home-planner located, screened and bombarded by HOME OWNERS' CATALOGS is in the market for new-home products right now. And every custom home built today is a model for the millions of homes to be built tomorrow. Home-planners are fully aware of existing difficulties—rising prices, government controls, scarcity of some materials—but they are going right ahead with their home-building plans.

3. How can you sell this market . . . effectively and economically?



Home-planning families name Home Owners' Catalogs as their *most helpful* source of product information. So . . . why shouldn't *you* investigate Home Owners' Catalogs—especially when the cost of this method of distributing your consumer sales literature to *active* home-planners is in *direct proportion* to your *actual sales possibilities*. Nowhere else is what-you-pay kept so commensurate with what-you-get. Need we say more?

An independent researcher's complete report on the activity in today's quality housing market is yours for the asking. Write to Research Department. Home Owners' Catalogs. It's **FREE**.



See Standard Rate and Data Service for complete details

HOME OWNERS' CATALOGS

A Service of the F. W. Dodge Corporation
119 West 40th Street, New York 18, N. Y.

ACT NOW! Today's custom housing market sets the styles for tomorrow's mass market!

THE RECORD REPORTS

CANADA (Continued from page 18)

All essential building services throughout the structure will be carried in drop ceilings in the corridors. Steam supplied from the central heating plant on the property will heat the building through heat converters to supply hot water for convectors located on outside walls. Heat exchangers in a forced air system will apply warmed air for ventilation of the building and heat for the basement area.

1950 Housing Review Notes Break in Postwar Increase

Reviewing 1950 housing developments in its quarterly summary, *Housing in Canada*, Central Mortgage and Housing Corporation notes that for the first time since the end of World War II, the annual volume of house building activity showed no appreciable increase over the preceding year. The number of houses started and completed in 1950

remained about the same as in 1949, involving 95,000 and 92,000 units respectively.

As a result of defense expenditures and other non-residential construction, house building met with increasing competition in the demand for labor and materials. The value of new residential construction in 1950 compared with 1949 showed an increase of only five per cent.

Commenting on the production of building materials during 1950, the report states that output increased eight per cent over the 1949 figure. At the same time, domestic absorption of construction materials showed a gain of nine per cent. During the last half of 1950, as construction output was increasing, domestic disappearance was 16 per cent higher than in the last half of 1949. *Housing in Canada* suggests that this increase was caused by material stockpiling at the dealer and builder level, as well as the general over-all increase in construction activity.

Building costs advanced steadily during the year. The combined index of prices of residential building materials and wage rates in the construction trades, which rose less than one per cent during 1949, increased by 12 per cent during 1950. The increase reflects a rise of 16 per cent in material prices and five per cent in wage rates during the period. On the average throughout 1950, the combined index was six per cent higher than in 1949.

(Continued on page 276)

Everybody Profits with
AMWELD STEEL DOORS and FRAMES
SLIDING CLOSET DOOR UNITS

The architect, builder, and owner — everybody profits with AMWELD. Architects recognize these well-known products blend with all types of architecture and provide lasting beauty. Builders know because they meet today's modern and exacting construction standards, insure perfect fit, and require much less installation time. Owners profit because of their beauty, low cost, and a lifetime of trouble-free service.

It will pay you to investigate the famous AMWELD Building Products Line — the line that is becoming the "most asked for" interior steel door and frame and sliding closet door unit.



K-D UNITS TOO!

Sliding Closet Door Units are also available in packaged, knocked-down form, complete with header, jambs, track and hardware. Suitable for new construction and particularly adaptable for remodeling.



SEND FOR 12-PAGE CATALOG!

BUILDING PRODUCTS DIVISION

THE AMERICAN WELDING & MANUFACTURING CO.
340 DIETZ ROAD • • WARREN, OHIO



William Frederick Gardiner, of Vancouver was architect for this Bank of Toronto branch, with its large glass areas, at Marpole, B.C.

Famous Contractors Approve when The THORO System Products are— *Specified*

Here's what John F. Templin,
outstanding General Contractor,
Lakeland, Florida, has to say...



Showing 1 of 18 buildings constructed for Lakeland's
Florida Southern College. All with Thoroseal on ex-
terior surfaces. John F. Templin, General Contractor.

TEMPLIN'S, INC.

General Contractors
940 EAST MAIN STREET
LAKELAND, FLORIDA

Mr. Bert J. Long,
Standard Dry Wall Products,
New Eagle, Penna.

November 16, 1950

Dear Mr. Long:

Prior to 1944 we tried numerous kinds of materials
for waterproofing masonry construction. Since we
began using Thoroseal and Quickseal six years ago
we have been entirely satisfied. Not only have
all of our applications been highly satisfactory,
but their use is economical.

Your distributor for central Florida, Mr. Thomas
N. Morrison, Lakeland, has proven himself to be
as reliable in representing your merchandise as
are the products themselves.

On the basis of our experience with Thoroseal and
Quickseal we gladly recommend them for water-
proofing and for beautification.

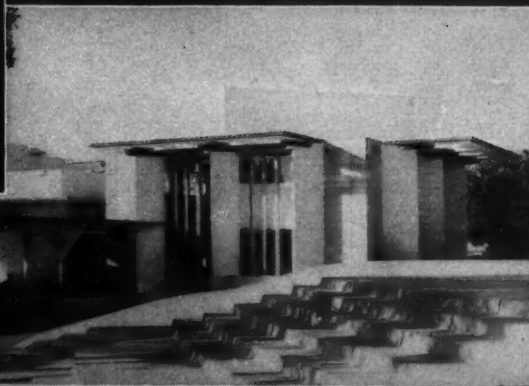
Sincerely Yours,

TEMPLIN'S INC.
By *John F. Templin*
John F. Templin

JFT-k



John F. Templin



Thoroseal Protection. Architect, Frank Lloyd
Wright. General Contractor, John F. Templin.

"Weathering the elements of Florida has been a con-
tinuous battle for years for most contractors in a climate
of heavy rains, boiling sun and hurricane winds. That's
why you'll find leading builders recommending the

famous Thoro System Products. For over 39 years, these
materials have been given a rugged test that shows them
tops on most home builder's programs."

"The range of colors and the lasting brilliance of Thoro-
seal and Quickseal makes them a number one sales
feature for the contractor who emphasizes quality at
minimum cost."

39 YEARS OF SOUND BUSINESS REPUTATION

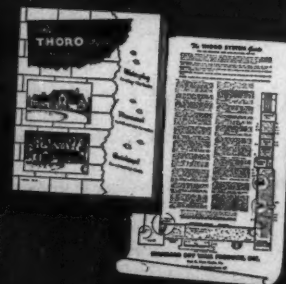
EXPERIENCE in the preparation of materials for masonry
protection and maintenance—in every case means
success or failure!

With THORO System Products, the designer secures
100% protection by complete sealing of the surface,
combined with exceptional beauty and color.

Write today for our new 20 page brochure 17-A and designer's wall chart.

Standard Dry Wall Products

NEW EAGLE PENNSYLVANIA



THE RECORD REPORTS

CANADA

(Continued from page 274)

Now under construction is this apartment house of 55 suites and two penthouses in Toronto. The building is structural steel with brick curtain walls, reinforced concrete roof and floor slabs. Gordon S. Adamson of Toronto is the architect



Ludowici Tile Roof on modern school



Tilton Grade School, Rochelle, Ill. Raymond A. Orput, Architect, Rockford, Ill.

Roof is laid with Ludowici light-weight smooth white interlocking shingle tiles.

THE LUDOWICI white tile roof on this new school is unusually pleasing against the verdant green of the land or the warm colors of the seasons. It will last long and shelter many generations of children. It will require no maintenance and because it is tile, and imperishable, it has all the elements of protection. This beauty and economy is available for many kinds of roofs.



LUDOWICI-CELADON COMPANY

104 South Michigan Avenue, Chicago 3, Illinois

NOTE: Full information is available to architects and builders about all of the colors, surfaces and patterns of Ludowici tile. We will be glad to furnish samples, details, specifications and architectural service on request.

New York 17, New York
565 Fifth Avenue
Washington 5, D. C.
740 15th Street, N. W.
Cleveland 20, Ohio
12734 Woodland Avenue

1951 First Quarter Shows Housing Drop; March Gains

Residential contracts awarded in March showed a \$2 million increase over March 1950; but the rise was not enough to offset a bad January and the total for the quarter was under last year's figure.

But MacLean Building Reports figures showed an increase of \$176 million, or 135 per cent, over March 1950 for all construction contracts awarded. All categories "rolled with the punch" so far delivered by government controls and regulations and scored startling gains. Cumulative total for the first quarter of the year is \$457 million, a healthy increase of 132 per cent over 1950's \$261 million at this time.

The construction cost index for March showed only a tiny change compared with that for February. From 231.7 (1935-39:100) in January, the index rose to 237.3 in February, slipped to 237.2 in March.

In the commercial category, types of buildings which failed to gain were—as might have been expected—hotels, clubs, theatres and warehouses. On the other hand, hospitals, schools and public buildings (which include some defense jobs) were up very considerably. In the engineering category, contract totals for all types of work were ahead of last year. Power and communication projects were up over \$6 million, sewerage and waterworks over \$5 million, and roads and streets over \$2 million.

Department of Labor Takes Inventory of Technicians

As part of its stocktaking of manpower resources, the federal Department of Labor is currently swelling the mail of technical personnel.

New records, to supersede those assembled during World War II, will be compiled by means of a questionnaire

(Continued on page 278)

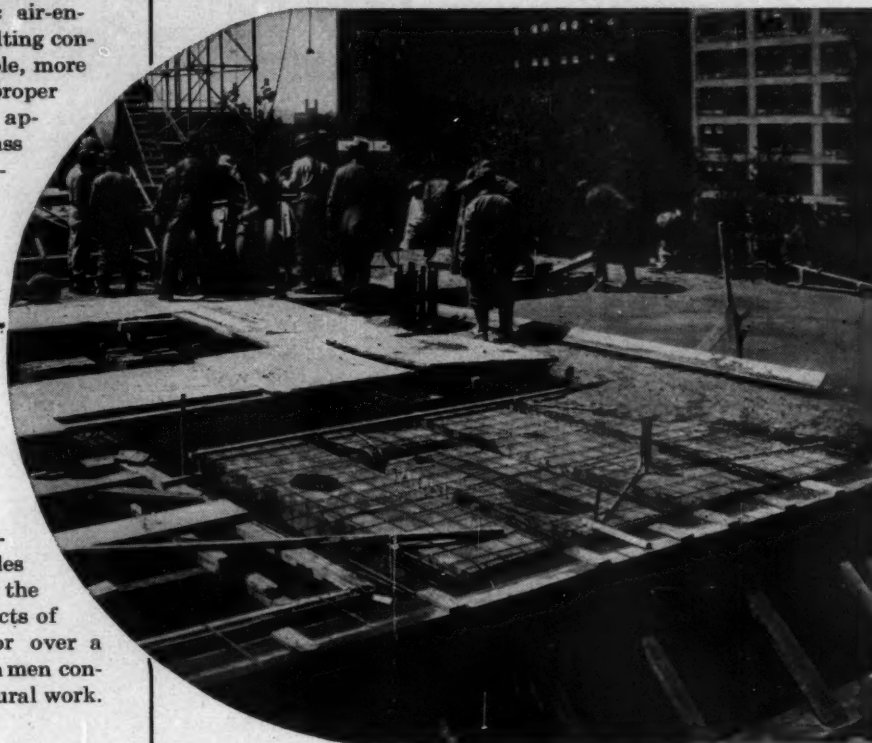
Makes

When D
crete, b
minimiz
finished
freezing
decade,
tinue to



Better for structural work

Less mixing water is required for a given slump when you use Duraplastic air-entraining portland cement. The resulting concrete is more plastic, more workable, more cohesive and uniform. This aids proper placement and improves surface appearance of both structural and mass concrete jobs. This is especially important when columns are heavily reinforced as shown in photograph.



Makes more durable concrete

When Duraplastic is used for structural concrete, billions of tiny entrained air bubbles minimize water gain and segregation. Thus the finished concrete is fortified against the effects of freezing-thawing weather. That's why, for over a decade, an increasing number of construction men continue to specify Duraplastic for their structural work.

YET DURAPLASTIC* COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

OFFICES: Albany, Birmingham, Boston, Chicago, Dayton, Kansas City, Minneapolis, New York, Philadelphia, Pittsburgh, St. Louis, Waco.

*"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

ATLAS®

DURAPLASTIC

AIR-ENTRAINING PORTLAND CEMENT

Makes Better Concrete at No Extra Cost

"THE THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network



AR-D-123

THE RECORD REPORTS

CANADA

(Continued from page 276)

sent to every architect, engineer and scientist in Canada.

A unique feature of the survey: each respondent is responsible for classifying his own ability and the record is filed in accordance with his selection.



Rule, Wynn & Rule of Edmonton were architects for this bus terminal for Canadian Greyhound Ltd., Edmonton, Alberta. It has facilities for a number of other bus lines as well as shops, a restaurant and a second floor planned as rental office space.



HOLIDAY HOUSE ENCHANTS the eye with its glowing, colorful freshness—beautiful today and for years of tomorrows. It features wall coverings of U. S. Naugahyde as well as furniture upholstered with this "Everlasting" plastic.

Yes, modern deserves modern U. S. Naugahyde upholstery —washes clean with a whisk!

Beautiful colors, rich textures that welcome family use—that's U. S. Naugahyde. It laughs at abuse—stays beautiful years longer. It won't split, peel, chip or scratch. It washes clean from spills and stains. It's sun-fast.

Always a joy without being a care—Naugahyde "belongs" with the simple, functional beauty of "Modern" at its best.

LOOK FOR THIS LABEL



Scores of
Everlastingly
Rich Colors
and Textures



UNITED STATES RUBBER COMPANY
MISHAWAKA, INDIANA

House Building Could Rise 27 Per Cent Within Decade

We can build 115,000 houses a year by 1960, and a continuously increasing number thereafter, if we devote the same proportion of our resources to this activity as in 1949. So claims O. J. Firestone, economic adviser to Central Mortgage and Housing Corporation, in a new book, "Residential Real Estate in Canada."

Production in 1949 was 91,000 units. The increase forecast is therefore 27 per cent. Such an increase is of course contingent on there being no third World War or radical change in building methods and designs.

Dr. Firestone does not presume to say that production of 115,000 houses a year will be adequate. He merely comments: "Whether or not this capacity will actually be developed and used depends on whether effective demand for such a number of houses can be maintained over a long period of time by some combination of private initiative and public assistance."

Lack of bias distinguished the book. Avoiding taking sides, the author is content to give facts, document them, and forecast where present trends—qualified by past events—are likely to lead. Exponents of home ownership as the sole solution to the shelter problem, and those who see housing as primarily a social welfare need, will both find much to substantiate their views. Simultaneously, they cannot fail to gain better understanding of all the complicated issues involved.

Barcol WARDROBE door

FOR CLASSROOMS

OPERATES
VERTICALLY

SAVES
SPACE

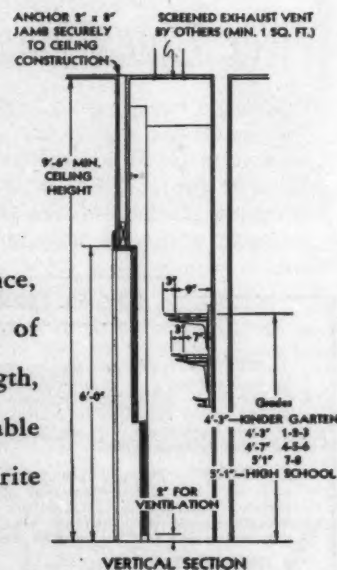
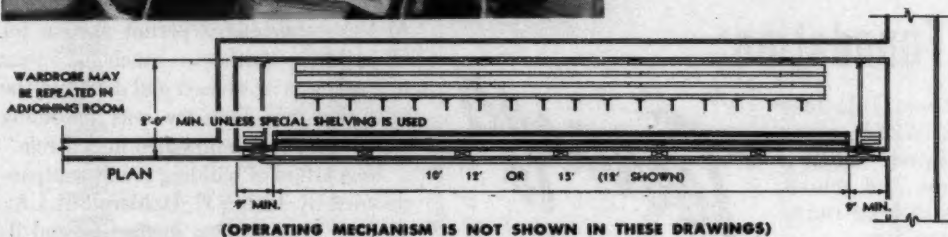
OPENS
FULL WIDTH

OPERATES FREE
OF CLOTHING

CHALK BOARD
AVAILABLE



**TWO-SECTION VERTICAL DOOR
OFFERS IMPORTANT SAVINGS
AND OPERATING ADVANTAGES
FOR MODERN SCHOOLS**



This new door opens *upward* . . . the operating mechanisms at the ends are positively *tied together*—resulting in an easy-working door that cannot tip or jam. This all-vertical arrangement takes *no* floor space in the room. Space-saving, conve-

nience, easy operation, neat appearance, concealment of clothing, protection of personal property, adaptability, strength, durability, high safety factor, reasonable cost—you get all these advantages. Write for Bulletin F-4644.



FACTORY TRAINED SALES AND SERVICE REPRESENTATIVES IN PRINCIPAL CITIES

BARBER-COLMAN COMPANY
102 MILL ST., ROCKFORD, ILLINOIS

A.I.A. CONVENTION

(Continued from page 14)

Prince, New York Chapter president, agreed that in most cases communal shelters would not offer effective protection. Most people in cities, they felt, would have to find protection in existing buildings—corridors, fireproof stair wells and specially designated and reinforced basement areas. The importance of skilled architectural and engineering advice to meet the individual problems of each building was stressed.

Accelerated decentralization of American factories and homes was described at the second session on civil defense as the only means of safeguarding industries and populations now concentrated in metropolitan target areas.

Dr. Ralph E. Lapp, atomic scientist and former head of nuclear physics for the Office of Naval Research, and Prof. William L. C. Wheaton of Harvard both were critical of government policies and

government agencies for "unpreparedness and inaction."

Doctor Lapp said no further vital defense construction should be permitted in key target areas and that vital factories operating in such centers should be gradually dispersed.

Professor Wheaton called for a vast Federally-sponsored program to channel new urban growth into new towns clearly separated by permanent open spaces and linked by superhighways.

Vernon deMars of the School of Architecture of the University of California noted that the progress of planning which promises extensive reshaping of many large American cities can also have the effect of making cities safer.



Firm Educational Foundation:

Offering a marble-hard, concrete-durable floor for scholastic endeavor, TERRAZZO gives maximum value per dollar invested. Long a favorite for hospital, institution, and school, it repays planners' foresight with long-range economy and easy daily maintenance.

Terrazzo

SPECIFY TERRAZZO FOR THESE REASONS

1. ECONOMY. Initial cost *plus* no repairs . . . no replacement . . . minimum upkeep over a period of years, for Terrazzo equals—usually is less than—initial cost *plus* repairs . . . and replacements . . . and higher upkeep for other types of floors.

2. COMFORT. Finished Terrazzo is *easy to walk on*. It is less slippery than any waxed surface. Furthermore, Terrazzo can save you enough money to acousticate your ceiling, thus giving you a very low noise level.

3. CLEANLINESS. Terrazzo can be sealed so as to be practically non-absorbent. Its smooth,

jointless surface *cleans easily* . . . can harbor no accumulation of germs. It is aseptic.

4. COLOR AND DESIGN. Terrazzo has warmth and beauty. You may specify *any design* you wish—pictorial or geometric—in virtually *any combination of colors*.

5. DEPENDABLE INSTALLATION. This Association's objective is to see that your Terrazzo installations *turn out exactly as you want them*. Write us today for complete information on the above points or see our advertisement in Sweet's Catalog for basic technical data.

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

711 14th Street, N. W.

Dept. R

Washington 5, D. C.

"Building under Controls"

The sharpest attacks on government policies came in the session on building under controls.

Walter C. Skuce, assistant administrator for production controls of the National Production Authority, and Richardson Bronson, assistant general counsel for NPA, were pressed for estimates on the probable level of construction operations next year; but they could give no definitive answer.

Mr. Skuce said the amount of work in 1952 would have to be based on "supply and demand factors" not yet available.

Ralph Walker called the whole principle of inventory controls impractical and said it leads only to black markets.

Henry C. Turner Jr., head of the Turner Construction Company of New York City, felt the May 3 amendment to M-4 (establishing a permit system for all buildings that use as much as 25 tons of steel) was ill advised and deplored the fact that the industry was becoming more and more "enmeshed in controls."

Regulation of building credit was condemned by Arthur C. Holden, F.A.I.A., of New York as "an ineffective and illogical" way to control building activity and combat inflation in the industry.

Mr. Bronson denied assertions that NPA has ignored industry advisory committees in formulation of policies. He said it was industry advice that had decided NPA to keep the \$5000 ceiling on exempted building jobs instead of reducing it to \$2000 and to retain hotels and lofts in the "permit" category instead of transferring them to the list of completely banned types. NPA has no intention of discouraging or prohibiting any building projects that are essential to public health, safety or welfare, he insisted.

(Continued on page 282)



WELDED FRAMEWORK SAVES 36 TONS OF STEEL

By J. R. Braun, Vice President
Byrne Organization, Inc.
Engineers and Contractors
Washington, D. C.

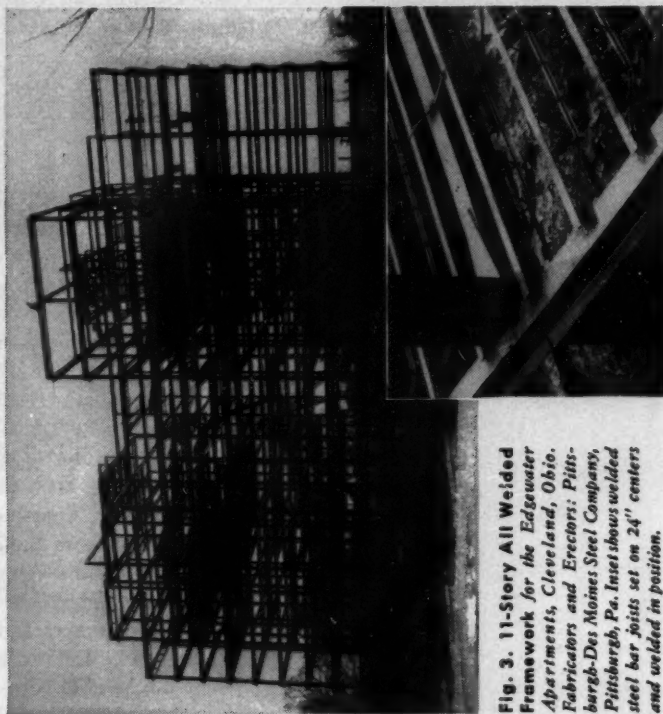


Fig. 3. 11-Story All Welded Framework for the Edgewater Apartments, Cleveland, Ohio. Fabricators and Erectors: Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa. Inset shows welded steel bar joints set on 24" centers and welded in position.

WELED design is cutting 5% from the labor costs of fabricating and erecting the 11-story Edgewater Apartments at Cleveland, Ohio. Simpler details of frame connections, made possible only with welded designs, are also helping to effect savings of 25% in weight of connections and a 3% reduction in total weight of this 1200 ton framework.

Each design detail utilizes the full economies of welded construction. Connections are so engineered as to allow fast, low cost shop fabrication and yet permit flat position field welding on every joint.

SIMPLER COLUMN SPLICES

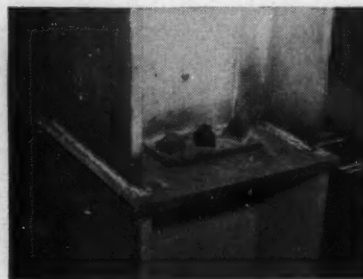


Fig. 1. Typical Welded Splice of all columns 12 to 12 and 12 to 14 WF column. Bearing plate is shop welded to lower column... clip angle for erection bolts is shop welded to upper column. All field welds are made in fast, easy downhand position.

FASTER BEAM-TO-COLUMN CONNECTIONS



Fig. 2. Simpler Detail Speeds Erection. Clip angle is shop welded to column for bolting beam in the field. Outside cover plates are then field welded to top and bottom flanges and the top plate to column in flat position with Lincoln "Fleetweld 5" electrodes. Bottom plate is shop welded.

WELDED DESIGN SAVES 25% ON WEIGHT OF CONNECTIONS

SEE HOW WELDED DESIGN SPEEDS ERECTION OF MULTI-STORY BUILDING

Studies in Structural Arc Welding free on request. Designers and engineers write on your letterhead to Dept. 162,

THE LINCOLN ELECTRIC COMPANY
CLEVELAND 1, OHIO

Modular Planning Lauded

C. E. Silling of Charleston, W. Va., A.I.A. regional director, told a modular coordination session that modular coordination as practiced in his office has "ordered our production methods in the drafting rooms, clarified the exposition of our drawings, speeded up our work materially, and furnished handsomely added profits we share with our men."

It was agreed in the meeting that one

of the most pressing needs is a program of education among builders; and William Demarest Jr., A.I.A., secretary for modular coordination, was receptive to the suggestion.

Honor Awards in Architecture

First Honor Award in the Industrial Building classification of the A.I.A.'s third annual program of Honor Awards in Architecture was given for the Coca

Cola Bottling Plant at Houston, Tex. (ARCHITECTURAL RECORD, February 1951). The architects were Stone and Pitts of Beaumont, Tex.

An Award of Merit went to F. J. McCarthy, San Francisco, for an electronics plant in San Carlos, Calif., for Frank C. Blecher.

The jury was deadlocked over top spot in the residential classification, and no First Award was given. Eight Awards of Merit were given, as follows: Maynard Lyndon, Los Angeles — own house, Point Dume, Malibu, Calif.; Raphael Soriano, Los Angeles — house for Mrs. Allan Olds (for *Arts & Architecture*); Alexander S. Cochran, Baltimore — own house, Baltimore; Coche, Bowman & York, Harlingen, Tex. — Ulhorn house, Harlingen; Richard J. Neutra, Los Angeles — Bailey house, Pacific Palisade, Calif.; Sherlock, Smith & Adams, Montgomery, Ala. — Lyon house, Mary Esther, Fla.; Wurster, Bernardi & Emmons, San Francisco — Isador Schuman house, Woodside, Calif.; Anshen & Allen, San Francisco — house for Sonya Silverstone, near Taxco, Mexico.

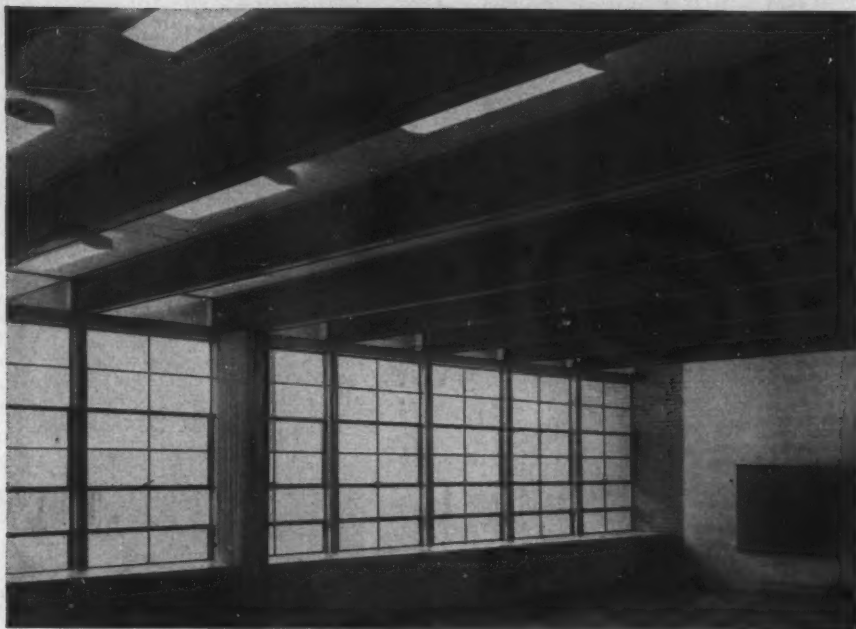
The Clearwater County Hospital at Bagley, Minn., took top honors in the third category. Thorshov & Cerny, Inc., Minneapolis, were the architects.

There were nine Awards of Merit for hospital buildings. These were given as follows: Pohlmeier & Pohlmeier, Fort Wayne, Ind., architects, and Skidmore, Owings & Merrill, New York, associated architects — Northern Indiana Hospital for Crippled Children, South Bend, Ind.; Stevens & Wilkinson, Atlanta, Ga. — Georgia Baptist Hospital, Atlanta; Sherlock, Smith & Adams, Montgomery, Ala. — Perry County Hospital, Marion, Ala.; Allison & Rible, Los Angeles — Goodyear Memorial Pavilion (maternity), Ventura, Calif.; Schmidt, Garden & Erikson, Chicago — Xavier Hospital, Dubuque, Ia.; Golemon & Rolfe, Houston — St. Francis Cabrini Hospital, Alexandria, La.; Kelly & Gruzen-Isadore Rosenfield, Architects-Engineers, New York — U. S. Veterans Hospital, Wilkes-Barre, Pa.; Giffels & Vallet, Inc., Detroit, architects, and A. N. Strauss, Fort Wayne, Ind., associated architect — U. S. Veterans Hospital, Fort Wayne, Ind.

Members of the Honor Awards juries, serving under Albert F. Heino, chairman of the awards committee, were:

Industrial Buildings — Fred L. Mark-

(Continued on page 284)

ECONOMICAL SCHOOL CONSTRUCTION

with efficient and decorative
RILCO BEAMS

Here's the economical and practical member to specify for modern, one-story school construction. Rilco Beams, adaptable to every architectural style, allow wide opportunity for individuality of attractive design.

Rilco Beams and Columns are custom fabricated from finest quality, kiln dried lumbers. They are

not subject to checking, warping or twisting. Members are smoothly surfaced, cut to length and drilled for assembly hardware. They offer important savings in material costs and erection labor.

Rilco field representatives will gladly consult with you about your specific requirements or you may write for literature.

RILCO

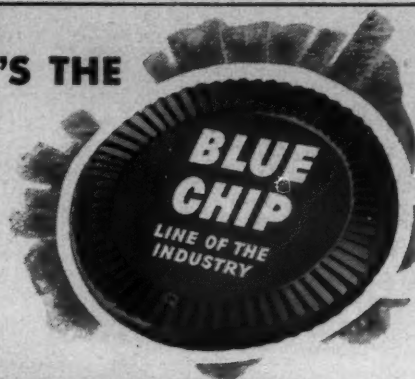
WORKS WONDERS
WITH WOOD

Laminated
PRODUCTS, INC.

2518 First National Bank Building, St. Paul, Minn.

For Industrial Mobilization...specify Westinghouse

IT'S THE



A SIZE AND TYPE FOR EVERY NEED



...of course, it's electric!

YOU CAN BE SURE...IF IT'S Westinghouse

- **Air-Cooled Water Coolers, Bottle and Pressure Types . . .** 3 to 13-gallon capacities, for applications where the operating conditions and temperatures are normal.
- **Water-Cooled Models, Heavy-Duty Pressure Types . . .** 14 to 22-gallon capacities, for applications in hot, dusty, and lint-laden air—such as steel mills, foundries, and textile mills.
- **Explosion-Proof Models . . .** 8 to 14-gallon capacities, for hazardous locations.
- **Compartment-Type Coolers, in Bottle and Pressure Models,** with ice cube evaporator and refrigerated storage space.

Specification Features that Count!

COMPACT DESIGN . . . MINIMUM FLOOR SPACE

Westinghouse Water Coolers measure only 14 inches by 14 inches. This compact design increases their value where space is at a premium.

5-YEAR PROTECTION PLAN

Protected by a 5-Year Guarantee Plan with a standard 1-Year guarantee on the complete water cooler. An additional 4-year free replacement on the hermetically-sealed refrigeration system, which includes the motor-compressor, evaporator and condenser . . . not just the motor-compressor alone.

EASY TO SERVICE

By removing the front panel, adjustments or replacements of the stream-height regulator, temperature control, Thermoguard and automatic electric flow control valve may be easily made.

LET US HELP YOU WITH YOUR WATER COOLER PROBLEMS

For specific assistance on your water cooler problems, look in the yellow pages of your telephone directory for the Westinghouse Water Cooler Distributor. Take advantage of our factory-trained people because they can be of real help to you.

WESTINGHOUSE ELECTRIC CORPORATION
Refrigeration Specialties Dept.
Springfield 2, Mass.

- ☐ Please send me a copy of Architectural File Folder.
- ☐ I am interested in securing further information on your Water Cooler line.

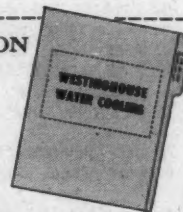
Name _____

Position _____

Firm _____

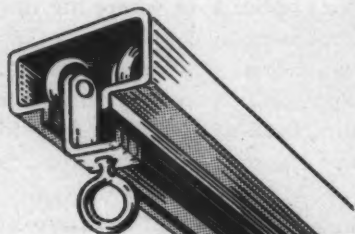
Street _____

City _____ State _____





Along with the great strides being made in school construction has come an ever increasing demand for Grant Sliding Hardware. Architects specify Grant — certain that quality and dependability are inherent features of every Grant product.



#15 Traverse Track

Audio-visual rooms can be equipped with Grant curtain hardware... hardware which consistently assures easy and quick opening and closing of curtains. Grant traverse track enables ordinary school-rooms to be converted to motion picture rooms instantly.



Grant #16 Hanger

Grant silent sliding door hangers can be applied to teachers' supply closets, wardrobe doors and varied other types of school doors. Only Grant hangers feature three adjustments. Grant hangers are equipped with silent sliding nylon ball bearing rollers.

All Grant hangers are center hung. Grant hangers cannot jump the track or bind.

Write Architectural Division
For Complete Catalogue

GRANT PULLEY & HARDWARE CO.
31-83 WHITESTONE PKY., FLUSHING, N. Y.
Representatives in all major cities.
The foremost name in Sliding Devices

A.I.A. CONVENTION

(Continued from page 282)

ham, Provo, Utah; Carter E. Hewitt, Peoria, Ill.; C. Theodore Larsen, Ann Arbor, Mich.; Joseph Z. Burgee, Chicago; Dale Purves, Philadelphia, chairman.

Residences — Chloethiel Woodard Smith, Washington, D. C.; Florence Byerly of *Better Homes and Gardens*; Paul Schweikher, Chicago; A. W. Geller, New York City; and Prof. Milton S. Osborne of Pennsylvania State College, chairman.

Hospitals — Dr. Herman Smith, Chicago; Perry B. Johanson, Seattle; Prof. Harold Bush-Brown, chairman, Department of Architecture, Georgia Institute of Technology; Harrison Gill, Chattanooga, Tenn.; Addison Erdman, New York, chairman.

Product Literature Honored

The Anemostat Corporation of America and the Bettinger Enamel Corporation won Certificates of Exceptional Merit in the third annual Product Literature Competition sponsored jointly by the A.I.A. and the Producers' Council.

An increasing standard of excellence in products literature design and presentation was noted by the jury, which also gave certificates or commendations to 30 other firms.

Members of the jury were: Richard M. Bennett and Howard L. Cheney, both of Chicago; Harry R. Downswell, New York City; John C. Thornton, Detroit; and Lessing W. Williams, New York City, chairman.

Award-winning literature in the competition is listed below.

Class I (Basic Technical Information)

Certificate of Merit: Sound Absorption Coefficients — Acoustical Materials Association; Fundamentals of Light and Lighting — General Electric Company; Handbook — Bell & Gosssett Company; Dry Brick Walls — Louisville Cement Company; Brick and Tile Engineering — Structural Clay Products Institute; Architectural Grade Weldwood Plywood Panels — U. S. Plywood Corporation.

Honorable Mention: Aluminum in Architecture — Aluminum Company of America; Care and Cleaning of Marble and Marble Forecast — Marble Institute of America; Facing Tile — Catalogue 51-C — Facing Tile Insti-

(Continued on page 286)

That New-Type ELDORADO Keeps Drawing Architects!

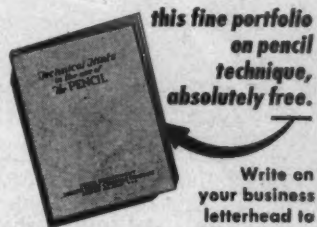


More architects than ever are using the great new-type ELDORADO

DRAFTSMAN: All these new-type Eldorados give me a uniform line from start to finish...hold their points longer. All — and I mean all.

ELDORADO: Right. You can't beat the new-type Eldorado with its stronger...denser, more uniform lead and longer point life. Eldorado's exclusive Leadfast process insures no splintering or burring...leads are truly centered. Rounded smooth edges of Eldorado's hexagonal shaft are easy to sharpen, comfortable to draw with.

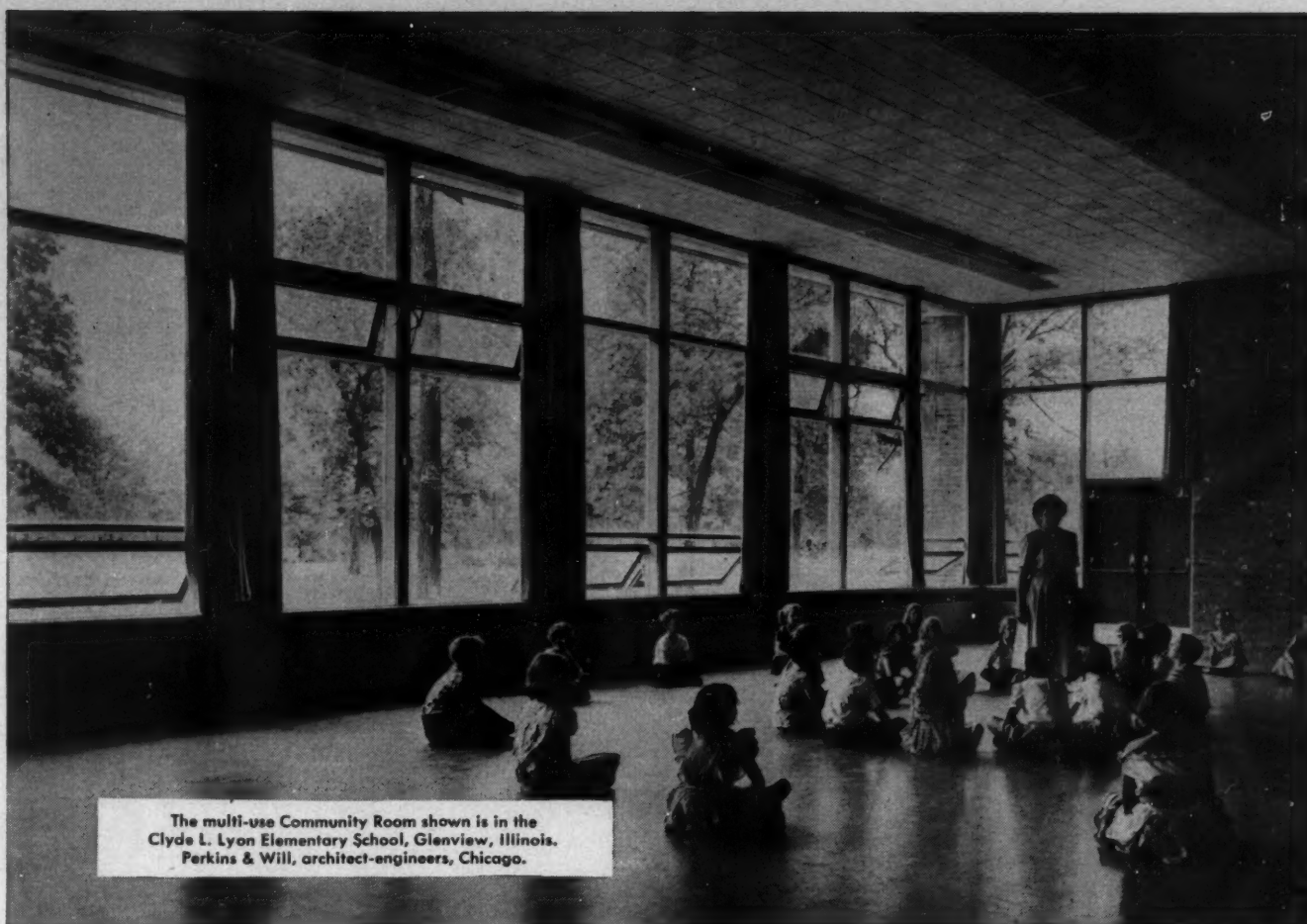
DON'T WAIT... send for your free samples of the new-type Eldorado today...the two degrees most useful to you...plus...



Write on your business letterhead to the address below.

**DIXON'S
TYPHONITE
ELDORADO**

Joseph Dixon Crucible Co., Pencil Products
Division 225J-6, Jersey City 3, N. J.



The multi-use Community Room shown is in the Clyde L. Lyon Elementary School, Glenview, Illinois. Perkins & Will, architect-engineers, Chicago.

What's happened to the little dull Schoolhouse?

It's being flooded with daylight! The children love it—and a light, cheerful room is good for them.

Architects are opening up at least one whole wall—windows all the way to the ceiling and from wall to wall. This provides abundant daylight throughout the classrooms. It also reduces glare which is sensed when you just have little patches of bright light that contrast harshly with darker, shaded areas. Even illumination all around is easy on children's eyes.

These Daylight Walls of clear flat glass also make the rooms seem larger. Clear glass does not obscure vision. The eye can travel to the outdoors with an unbroken sweep.

Clear flat glass, used for an entire wall, has the advantage of economy, too. It is cheaper than any other form of glass, costs less to install, and admits

more daylight. Architects of these latest type schools find they can build a whole wall of glass cheaper than with non-transparent materials.

Can't all your clients take a lesson from the schoolhouse? No matter whether they need a new office or a factory, with Daylight Walls their employees will have a happier environment. Before you start to plan, check into the economy of a wall designed from the start with clear flat glass.

Write for our book, "Daylight Engineering for Schools". Libbey-Owens-Ford Glass Company, 1961 Nicholas Building, Toledo 3, Ohio.



DAYLIGHT WALLS

THAT DON'T OBSCURE VISION

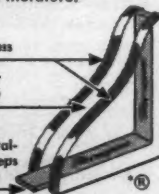
THERMOPANE • PLATE GLASS • WINDOW GLASS


FOR WINDOW INSULATION, THERMOPANE® insulating glass is widely and successfully used. THERMOPANE with $\frac{1}{2}$ " of dry air hermetically sealed between two panes has twice the insulating value of single glass. This minimizes chilliness, drafts and heat loss at windows in winter. THERMOPANE cuts air conditioning costs in summer by reducing the amount of heat that enters. Write for THERMOPANE literature.

Two Panes of Glass

Blanket of dry air insulates window

Bonded (metal-to-glass) Seal® keeps air dry and clean





New terrazzo lobby, in \$1,700,000 Field House is Hillyard-treated for permanent beauty, and easy maintenance. Terrazine during construction for slow, hard-as-flint curing, Onex-Seal for a safe beauty finish. Super Hil-Tone for daily maintenance.

Gleaming gymnasium floor in Field House guarantees non-skid no-glare play... is sealed with Hillyard Wood Primer, coated with Star Gym, the finish for champions now in use on 15,000 gym floors. Needs only occasional Super Shine-All cleaning.

**HILLYARD FLOOR CARE
IN THE BLUEPRINTS
AT THE
RICE INSTITUTE**

This recently completed field house is an excellent example of the way functional floor design, coupled with proper Hillyard treatment materials, is meeting present educational needs for beautiful floors that BASICALLY assure future, low cost maintenance.

From blueprint planning, through every stage of construction, architects, flooring contractors and school planners relied freely on the counsel of the Hillyard Maintainer in the Texas territory. Chose only those Hillyard products specialized for the type of floor.

Countless schools, universities, clubs, factories, institutions, hotels, hospitals for many years have relied on approved Hillyard Care. We'd like to show you its cost-saving advantages.

OUR FLOOR EXPERTS WILL HELP YOU



Whether you are planning a new building, remodeling, or "dressing up" an old one—our experienced Maintainers are at your service. Advice is FREE.

... on your staff not your payroll



St. Joseph,
Missouri
Branches in
Principal
Cities

WRITE TODAY FOR FREE

Hillyard Chemical Co. D-6
St. Joseph, Mo., Dept

Please send me FREE current catalog information on approved Hillyard Floor products.

Name.....Title.....

Institution.....

Address.....

City.....State.....

A.I.A. CONVENTION

(Continued from page 284)

tute; Door Butts and Hinges, Hardware Metals and Finishes, and Directory of Builders Hardware Finishes — Hardware Consultant & Contractor.

Class II (Manufacturer's Products Literature)

Certificate of Exceptional Merit: Draftless Aspirating Air Diffusers — Anemostat Corporation of America.

Certificates of Merit: Architectural Literature (6 pieces) — Miller Company; U.S.G. Data Book — Lath and Plaster — U. S. Gypsum Company; American-Standard Plumbing Fixtures — American Radiator & Standard Sanitary Corporation; Copper Roofing Products — Chase Brass & Copper Company; Knoll Furniture — Knoll Associates, Inc.

Honorable Mention: Hermosa Tile Handbook — H-101 — Gladding McBean Company; Peelle Elevator and Dumbwaiter Doors — The Peelle Company; Alcoa Aluminum Industrial Building Sheets — Aluminum Company of America; Architectural Service Bulletin (2 books) — The Kawneer Company; Tracing Detail File — Wood Windows — Andersen Corporation; Fenestra Blue Book of Drafting Room Standards — Detroit Steel Products Company; Architectural Catalog — Hope's Windows, Inc.; Industry's New A-C Motor Control — Westinghouse Electric Corporation; How to Detect Acoustical Tile — Armstrong Cork Company.

Class III (Promotional Literature)

Certificate of Exceptional Merit: The Drawing Board and the Flame — Bettinger Enamel Corporation.

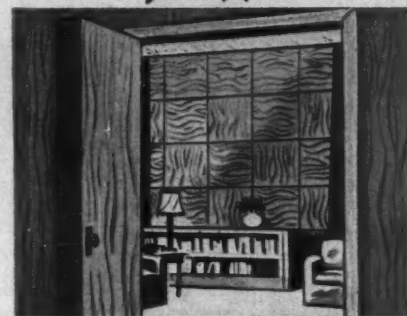
Certificate of Merit: Brick and Tile (12 pieces) — Structural Clay Products Institute; Bruce Floor Products — E. L. Bruce Company.

Honorable Mention: Free Flow Escalators — Otis Elevator Company; Ceiling Architecture — Anemostat Corporation of America; Trinity White Portland Cement — General Portland Cement Company; Flashing Expansion Joint and One-Piece Thru-Wall Copper Flashing — Chase Brass & Copper Company; Marlite — Architectural Catalog — Marsh Wall Products Company; Window Ideas — Andersen Corporation; The Mural Painters — National Society of Mural Painters.

INEXPENSIVE BEAUTY FOR



INTERIOR WOODWORK in a single application




CABOT'S STAIN WAX

produces the rich, penetrating color of stain showing full beauty of grain and texture... plus a lustrous, easy-to-clean, wax finish.

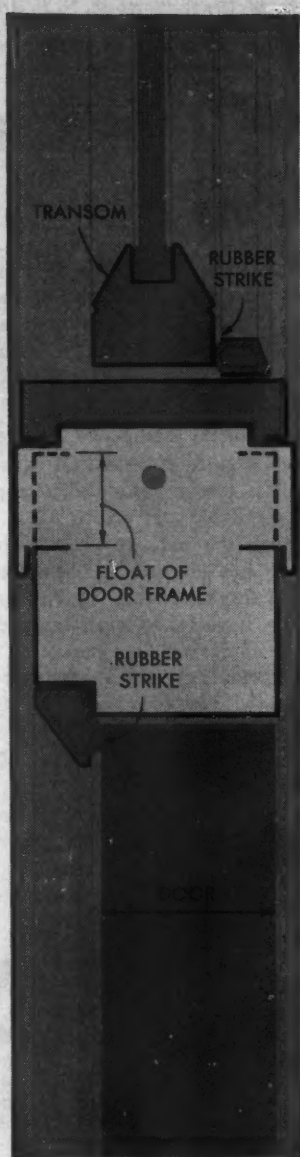
Cabot's Stain Wax comes in a wide variety of colors including modern blond shades — light tones of Ivory, Seashore and Glacier Blue and White — and the conventional Redwood, Maple, Mahogany, Walnut. Natural Stain Wax can be tinted with colors in oil. Whatever the interior, Cabot's Stain Wax is ideal for all wood paneling, doors, trim or sash.

Write Today for Cabot's Stain Wax color card and complete information. Many of the shades are available from no other source. Samuel Cabot, Inc., 629 Oliver Bldg., Boston 9, Mass.

CABOT'S STAIN WAX

The  ALLMARK of Leadership in Movable Interiors

The Leader in Floating Door Frames



A Patented Hauserman Feature



This is another Hauserman feature that assures better design, service and client satisfaction in buildings you lay out.

The Hauserman door and frame as a unit can be adjusted exactly to accommodate variations in floor levels, caused by floor coverings, thresholds and other similar factors. The necessary adjustments can be made by simply loosening the bolts on each side of the door frame. No necessity for cutting the bottoms of doors, or using makeshift methods.

All Hauserman doors are mortised to accommodate stock interchangeable hardware. All are reinforced to take either concealed closers or surface closers at any time. All doors are made to easily install an automatic draft check or compression seal at any time.

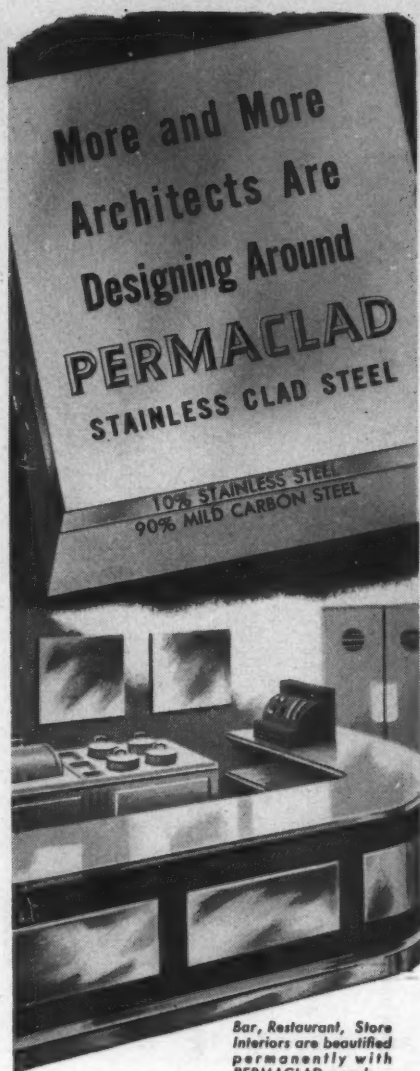
Hauserman has more exclusive, patented features than any other type of movable wall. Write for the new 1951 Hauserman *Movable Steel Interior* catalog picturing and detailing all Hauserman advantages. Your nearby Hauserman office or representative can give you expert engineering assistance on any partitioning requirement. *The E. F. Hauserman Company, 7153 Grant Avenue, Cleveland 5, Ohio.*



Organized for Service
Nationally Since 1913



Partitions • Wainscot • Railings
Complete Accessories



Bar, Restaurant, Store Interiors are beautified permanently with PERMACLAD panels.

Corrosion Resistant Easily Formed

Many Architects have discovered the advantages of designing interiors of PERMACLAD Stainless Clad Steel. PERMACLAD is Stainless Steel (10% or 20% but can be varied) inseparably welded to mild carbon steel. It provides corrosion resistance at decreased costs and since it can be easily formed it offers Architects and Designers new opportunities for modern design. Great savings in critically short materials can be effected through use of PERMACLAD. Get complete information now. Write for free folder D-88.

Improve Design at Low Cost by Specifying PERMACLAD

PERMACLAD
STAINLESS CLAD STEEL
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

125 Years of Iron and Steel Making Experience

Other Products: A. W. ALGRIP Abrasive Floor Plate
A. W. SUPER-DIAMOND Floor Plate
Plates • Sheets • Strip • (Alloy and Special Grades)

REQUIRED READING

(Continued from page 32)

wide range of climatic conditions, that any categorical solution would be regrettable.

It really is an interesting, stimulating book. It clarifies one's thinking about the beginnings of a new era in planning for the needs of childhood. May the author continue to write more such.

THE HOUSE OF COMMONS

Parliament House. By Maurice Hastings. The Architectural Press (London), 1950. 5½ by 8½ in. 200 pp., illus. 12s6d.

REVIEWED BY KEITH DE FOLO

Completed last year, the new British House of Commons preserves the architectural (and spiritual) link with the Commons' ancient home, the richly ornate 14th century St. Stephen's Chapel in Westminster Palace. Edward I, who built St. Stephen's, deliberately set out to surpass the Sainte Chapelle in Paris; among other things, he added a third story and extended the mullions of the windows right down to the ground. This introduced the 'Perpendicular Style' to English architecture; e.g., Gloucester Cathedral. Every detail of Edward's creation is vividly reconstructed by Dr. Hastings — from the thin Purbeck marble columns to the painted figures of the Royal family. "The whole building was ablaze with color, for hardly an inch of stonework was not painted or heavily gilded." Not so vivid (or convincing) is the author's insistence that St. Stephen's Chapel is responsible for the present character of the House of Commons. The fact that the Chapel's seating arrangement compelled past House members to face each other, resulting in two opposing groups, the Government and the Opposition, does not indicate the Chapel's character-molding influence. Or the "particular way in which English politics have developed." Better described is the stormy history of St. Stephen's: first the king's chapel, then a college and finally the House of Commons which was destroyed by the fire in 1834. During its 500-year career, St. Stephen's was 'classicized' by Christopher Wren who thought it a 14th century fantasy, and after the great fire was rebuilt in pseudo-Gothic. In 1941, a bomb blew the cheap Gothic to bits. The new Chapel is a handsome hybrid,

(Continued on page 290)



Myles J. McManus School, Linden, N. J.
Leslie M. Dennis, Elizabeth, N. J., Arch.
A. Christensen, General Contractor
Protected with Minwax Caulking Compound and Minwax Weathercap.

Stop that Leak before it starts!

• From the moment a building is erected, the elements begin seeking a way to enter. That's why it is so important to include proper protective treatment in specifications.

Since each structure presents an individual problem, competent advice on materials should be sought. Of equal importance is the need for skilled application by a reliable contractor.

Through the past 42 years, Minwax Company has developed a line of related waterproofing products which leading architects have found most satisfactory. This line comprises Transparents, Caulking Compounds and Weathercap for joint protection, and others. In addition, Minwax offers an advisory service without obligation and, upon request, will furnish names of reliable contractors.

A call to Minwax on your next project will demonstrate the value of our service. Please address Minwax Company, Inc., Dept. AR-6, 11 West 42nd Street, New York 18, N. Y.

SEE OUR CATALOG IN SWEET'S

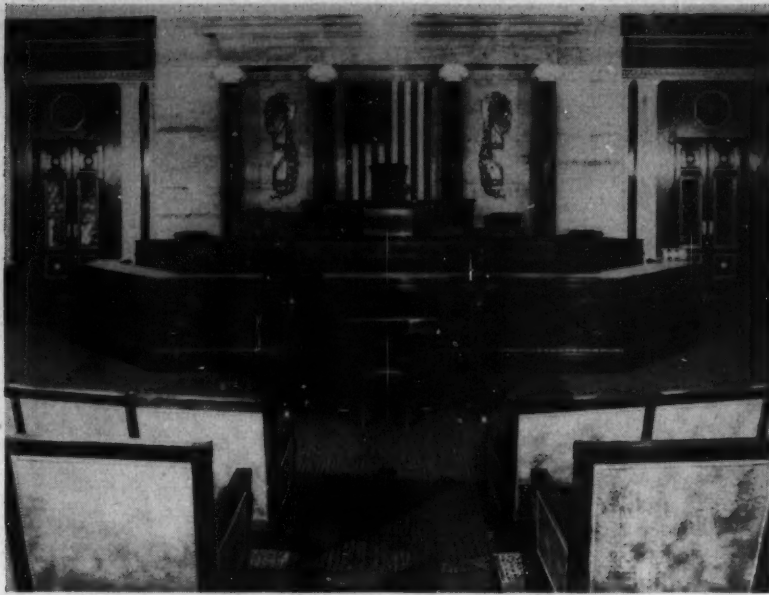
See Sweet's for full product information about Minwax Caulking Compound and Minwax Weathercap for masonry joint protection; Minwax Clear and Colorless Protective Treatments; also Membrane and Spandrel Waterproofings.



A COMPLETE WATERPROOFING SERVICE

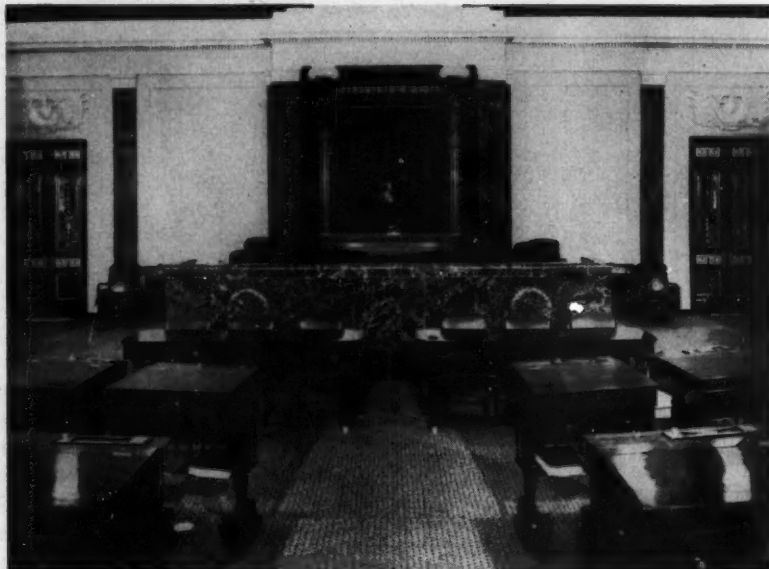
WHY

did Mohawk carpet go into the new United States Senate and the House of Representatives chambers?



WHY

is Mohawk so often selected over all other carpets for the finest installations in Hotels, Public Spaces, Theaters, Restaurants, and many others.



BECAUSE...

Mohawk carpets are quality carpets . . . made with balanced construction that assures outstanding dollar value. Every condition of light, climate, traffic — are considered for every installation . . . And Mohawk makes the most complete line of carpets manufactured in America today. Couple this with outstanding style and color and you have the reason why those who know fine carpet select Carpet Craftsmanship . . . from the looms of Mohawk.



Mohawk



Write MOHAWK CARPET MILLS, INC. • 295 FIFTH AVE., NEW YORK
for the name of your nearest contract dealer

**USE THE
WORLD'S BEST
at
NO EXTRA COST**

1. CASTELL DRAWING 9000
2. CASTELL LOCKTITE REFILL
HOLDERS 9400—Black or Colored
3. CASTELL IMPORTED REFILL
LEADS 9030

These encompass every mood of
genius for drawing, drafting, tracing,
sketching, blueprinting, etc.



• Premium prod-
ucts at regular
prices. See your
dealer today.

AW FABER-CASTELL
PENCIL COMPANY INC. NEWARK, N.J.

REQUIRED READING

(Continued from page 288)

based on the previous designs but en-
larged in detail. Nearly 100 excellent
photographs and detailed drawings tell
the architectural story of St. Stephen's
and the Houses of Parliament even bet-
ter than Dr. Hastings' rather stuffy,
intricate prose.

NEW EDITIONS

SCHOOL ROUNDUP

The American School and University: 1950-51. 22nd annual edition. American School Publishing Co. (470 Fourth Ave., New York 16, N. Y.), 1950. 8¼ by 11 in. 904 pp., illus. \$4.00.

Probably no book is more generally
useful to the school architect than *THE
AMERICAN SCHOOL AND UNIVERSITY*, "a
yearbook devoted to the design, con-
struction, equipment, utilization, and
maintenance of educational buildings
and grounds."

This year's volume starts off with
an article by its editor, Walter D.
Cocking, on "Educational Building in
1949." An analysis of the schools erected
in that year, Mr. Cocking says, shows
that "approximately 70 per cent of them
are one-storied structures. The modified
campus type of plant is the rule rather
than the exception. Classrooms are
larger and the square classroom is be-
coming more and more the accepted
shape. Special facilities are provided for
adult and general community use."

"Trends in Planning Schools," by
Walter W. Hook, Charlotte, N. C.,
architect, gives an illustrated report on
the eight schools which received A.I.A.
Merit Awards in 1949. Another article
of particular interest is "Administering
a Construction Program," by John C.
Warnecke. Technical material includes
articles on radiant heating, audio-visual
facilities, school floors, sound systems,
dry-joint masonry. And, as usual, there
are many pages of pictures and plans of
recently completed schools and college
buildings. The editorial section as a
whole stretches to 360 pages.

The second half of the book (some 500
pages) is a directory of building products
and services, followed by the cumulative
editorial and author indexes to the last
12 editions.

(Reviews continued on page 292)



Convenient

At Hotel Cleve-
land you'll be
convenient to any-
where you'll want
to go in Cleve-
land. Hotel Cleveland is directly
connected to Union Passenger
Terminal, garage, Terminal office
buildings.

Comfortable

Quiet, sleep-
inviting rooms
—all with ra-
dio, many with
television. Spirited, colorful new
decorations in rooms and lobbies.



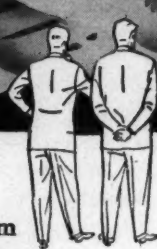
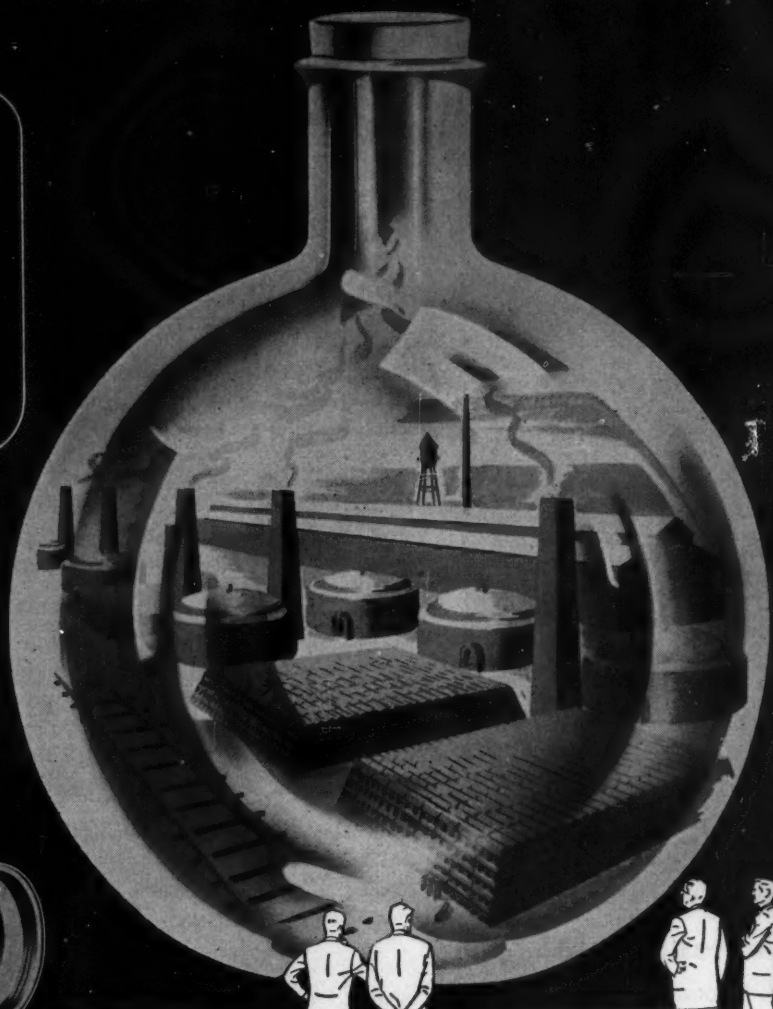
Friendly

There's a cordial,
hearty welcome...
gracious, attentive
service to greet all
who enter the
friendly doors of Hotel Cleveland.



**HOTEL
CLEVELAND**
Cleveland, Ohio

corrosives
can't harm
**CLAY
PIPE**



The industrial acids and corrosive fluids discharged from modern factories have no effect on Vitrified Clay Pipe. Clay is completely immune to any form of corrosive chemical activity, whether it's sewer gas, industrial waste, or the destructive acids found in sewage. Today, with chemistry involved in nearly half the nation's total production, it's more important than ever to install sewerage and drainage lines that are chemically inert — proof against the acids and soil conditions of today . . . and of tomorrow. *Every* city of *every* size needs Vitrified Clay Pipe — the *only* pipe that never wears out.

NATIONAL CLAY PIPE MANUFACTURERS, INC.
100 N. LaSalle St., Rm. 2100, Chicago 2, Ill.
206 Connally Bldg., Atlanta 3, Ga.
703 Ninth & Hill Bldg., Los Angeles 15, Calif.
311 High Long Bldg., 5 E. Long St., Columbus 15, Ohio

SPECIFY *Vitrified*

CLAY PIPE DATA

WRITE FOR DETAILED INFORMATION
Additional information and data on Vitrified Clay Pipe, Wall Coping and Clay Flue Lining sent **FREE** on request. State your specific questions. Simply contact the regional office nearest you.

**CLAY
PIPE**



C-151-10

Most economical passenger elevator

For 2, 3 or 4 Stories



No Penthouse!

Several advantages are gained in using Oildraulic Passenger Elevators: (1) You do away with the costly, unsightly penthouse that interferes with building design. (2) The lighter shaftway structure used with the elevator "that's pushed up" means a substantial saving in construction costs. The powerful hydraulic jack supports the elevator and its load. (3) The compact electric power unit usually requires no special machine room.

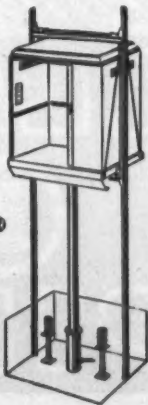
The new, pulsation-free Rota-Flow pump makes Oildraulic Elevators the smoothest operating and quietest of all hydraulic elevators.

For Catalog and
data file, write
ROTARY LIFT CO.
1003 Kentucky,
Memphis, Tenn.

Rotary

**OILDRAULIC
ELEVATORS**

See our catalog
in Sweet's



REQUIRED READING

(Reviews continued from page 290)

BOOKS RECEIVED

Design in Sweden Today. Edited by Åke Hultdt and Eva Benedicks. Albert Bonnier, New York — Mostly ceramics, textiles, glass, furniture and silver in an excellent photographic presentation.

Building Modern Sweden. By Bertil Hullén. Penguin Books, Inc., Baltimore — Bricks, steel, glass, wood and mortar throughout Sweden in houses, factories, apartments, planned projects, etc.

Current Design, Vol. I, No. 1-4. A Quarterly Survey. Institute of Contemporary Art, Boston — Loose-leaf, cumulative presentation of contemporary domestic and foreign home furnishings; each product is shown and numbered consecutively.

Advertising Design. The Art School, Pratt Institute, Brooklyn — Brochure discusses scope and potentialities of design for commerce and industry.

Practica E Tecnica Delle Pavimentazioni Stradali. By Umberto Bonzano. Antonio Vallardi, Milano — Detailed discussion of materials and tests and engineering techniques in paved road construction (in Italian).

Climate in Everyday Life. By C. E. P. Brooks. Philosophical Library, New York — Describes types of climate, effect of heat and humidity, heating, air conditioning, weather controls, etc.

Unterirdischer Städtebau. By Ernst Randzio. Walter Dorn Verlag, Bremen — Construction of underground facilities in city planning: transportation, service mains, tunnels, etc., with examples from greater Berlin (in German).

Construction and Equipment of the Home. By the American Public Health Assn. Committee on the Hygiene of Housing. Public Administration Service, Chicago — Symposium considers structural framework, air conditioning, illumination, noise control, sanitation, safety, legal and administrative standards.

Bricks and Mortals. Citizens' Housing and Planning Council, New York — Principles to guide large-scale residential development in New York City.



on NORTON non-slip Floors and Stairs

- Permanently non-slip
- Extremely wear-resistant
- Non-resonant

Never again need you worry about anybody slipping on floors, ramps or stairs. Positive, permanent non-slip protection—even when wet—is the guarantee you get with Norton Floors.

The extreme wear-resistance of Norton Floors to the heaviest foot traffic makes their installation an economical investment in long, trouble-free service. Also, they are quiet and comfortable to walk on.

You have four choices of Norton non-slip floor products:

- (1) Stair and Floor Tile
- (2) Ceramic Mosaic Tile
- (3) Aggregate for Terrazzo Floors
- (4) Aggregate for Cement Floors

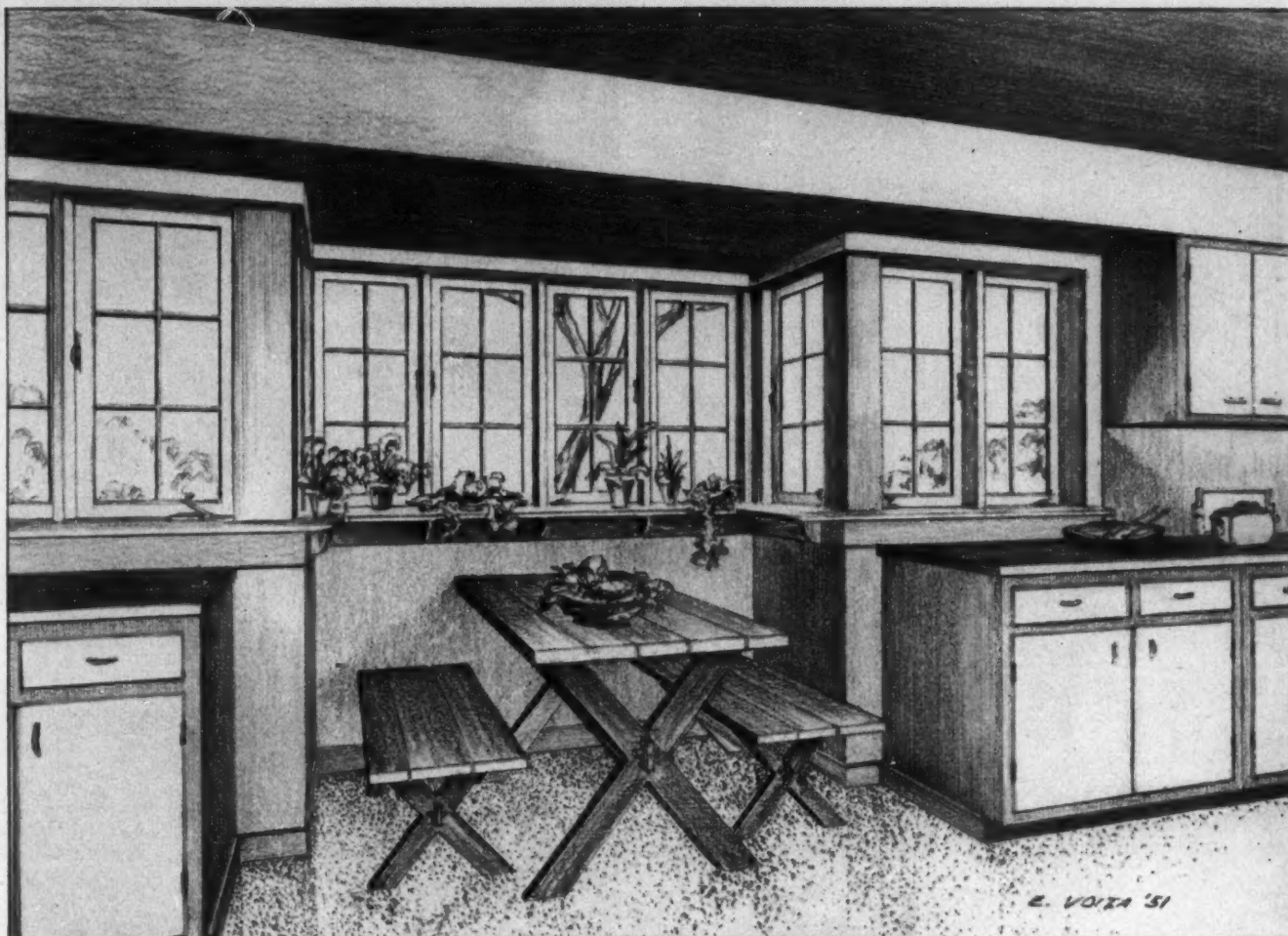
Write for our free Catalog No. 1935 or see our Catalog in Sweet's Architectural or Engineering Files.

NORTON COMPANY

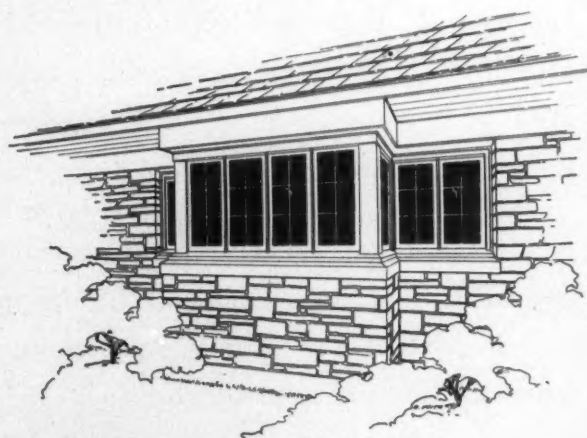
Worcester 6, Massachusetts



variety **WITH WOOD WINDOWS**



No matter what type of house you design, you can find the *right* style of wood window units to fit your plan. That's because wood window units offer you a wide variety of designs and sizes—including modern trouble-free casements. In whatever style you choose, you can be sure of getting correct architectural beauty, precise craftsmanship and pleasing proportions. Wood Window Program, 38 South Dearborn Street, Chicago 3, Illinois.



wood windows

for modern beauty and modern performance

visit the "HOUSE OF IDEAS"



Open June 15...Upper Brookville, Long Island Complete story with photographs in July House & Garden

Sponsored by House & Garden, furnished by Macy's New York, the HOUSE OF IDEAS is a practical experiment in the spending of today's building dollars... showing what wise planning can accomplish, what modern materials and good design can do. Built to get the most out of a specific budget, the result is a house of space and grace, offering these trend-setting features:

A three-wing plan for privacy • A patio that enlarges the living room • A bedroom wing with its own terrace • A carport that adds storage space • Closets engineered for efficiency • A double-duty bath-dressing room • A two-in-one children's room for sleep and play • Step-saving kitchen-laundry • Controlled heating for each wing • A roof that reflects the heat • Rooms that cool themselves in summer

HOUSE & GARDEN

COPYRIGHT 1954 THE HOUSE GARDEN PUBLICATIONS INC.

420 LEXINGTON AVE., NEW YORK 17

ONLY
"Stainless"
COULD PLAY THIS
ROLE SO LONG

FOR MORE than 18 years, signs and marquees made of ENDURO Stainless Steel have been inviting audiences into famed Radio City Music Hall.

In all that time on the "big time," ENDURO's silvery luster has not dulled. It has resisted attacks of rust and corrosion. The big marquee and towering signs seem destined to attract theater-goers for a lifetime.

ENDURO is more than permanently beautiful. It happily combines handsome architectural effects with great structural strength, resistance to rust and corrosion, ease of cleaning and ease of fabrication.

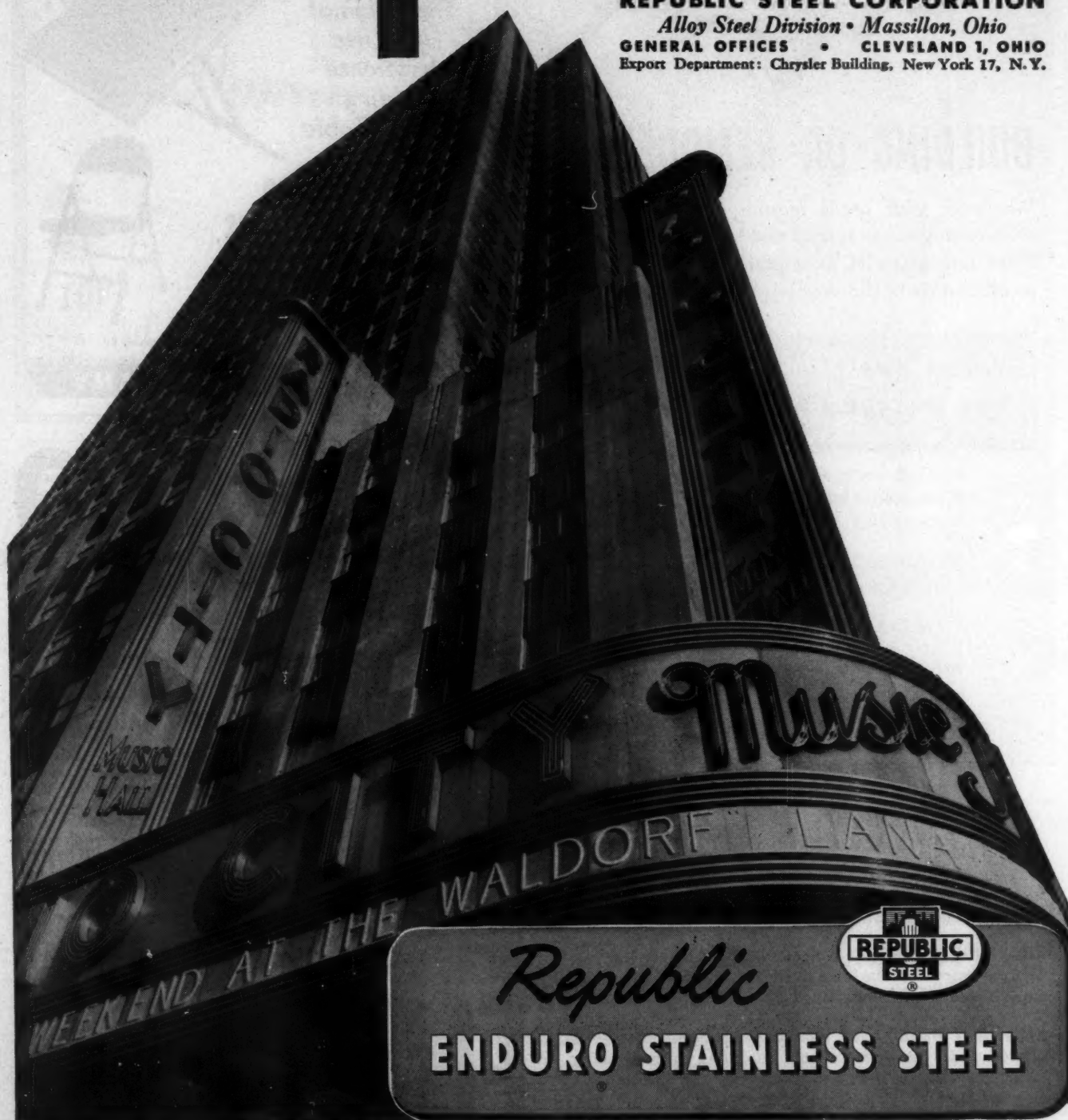
What other material offers so much for the architect? In your future plans, you can build for a lifetime with light, bright, weather-tight Republic ENDURO Stainless Steel.

REPUBLIC STEEL CORPORATION

Alloy Steel Division • Massillon, Ohio

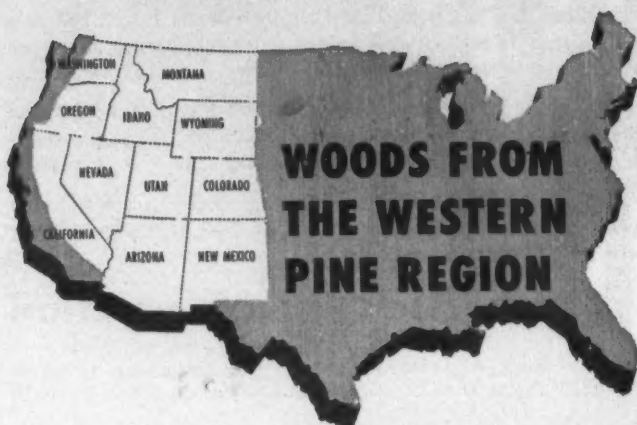
GENERAL OFFICES • CLEVELAND 1, OHIO

Export Department: Chrysler Building, New York 17, N. Y.



See Sweet's for data on Republic Pipe, Sheets and Roofing... Electrunite E.M.T.... Fretz-Moon Rigid Steel Conduit... Berger Lockers, Bins, Shelving and Cabinets... Truscon Steel Windows, Doors, Joists and other Building Products.

FIRST CHOICE FOR

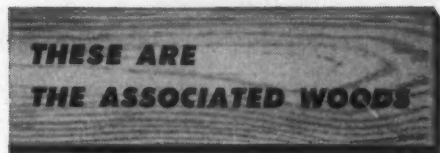


BUILDING OR REMODELING

Whenever your needs require durable, versatile softwoods, you can specify and buy with confidence these fine seasoned and graded products of the member mills of the Western Pine Association.



- IDAHO WHITE PINE
- PONDEROSA PINE
- SUGAR PINE



- LARCH
- DOUGLAS FIR
- WHITE FIR
- ENGELMANN SPRUCE
- INCENSE CEDAR AND RED CEDAR
- LODGEPOLE PINE

WELL MANUFACTURED Skilled handling and modern methods feature every step from forest to loaded car. Milling after seasoning assures precise uniform sizes.

THOROUGHLY SEASONED Seasoning is done at the mill in accordance with the most improved practices and under supervision of specially trained Association personnel.

CAREFULLY GRADED All lumber from member mills is graded under the Association's published rules. Grading is constantly supervised and checked by the Association's Grading Bureau.

WESTERN PINE ASSOCIATION
YEON BUILDING, PORTLAND 4, OREGON



Monroe FOLDING TABLES

And Folding Chairs

Ask for Catalog No. 225

The Original "No Knee Interference" Folding Banquet Table

DIRECT PRICES TO SCHOOLS & COLLEGES, CHURCHES, SOCIETIES, CLUBS, LODGES, etc.

Monroe Tables Designed and Manufactured Exclusively By

THE Monroe COMPANY
31 CHURCH STREET COLFAX, IOWA

SHEPARD



**HIGH DEPENDABILITY
GREATER ECONOMY
LESS MAINTENANCE**

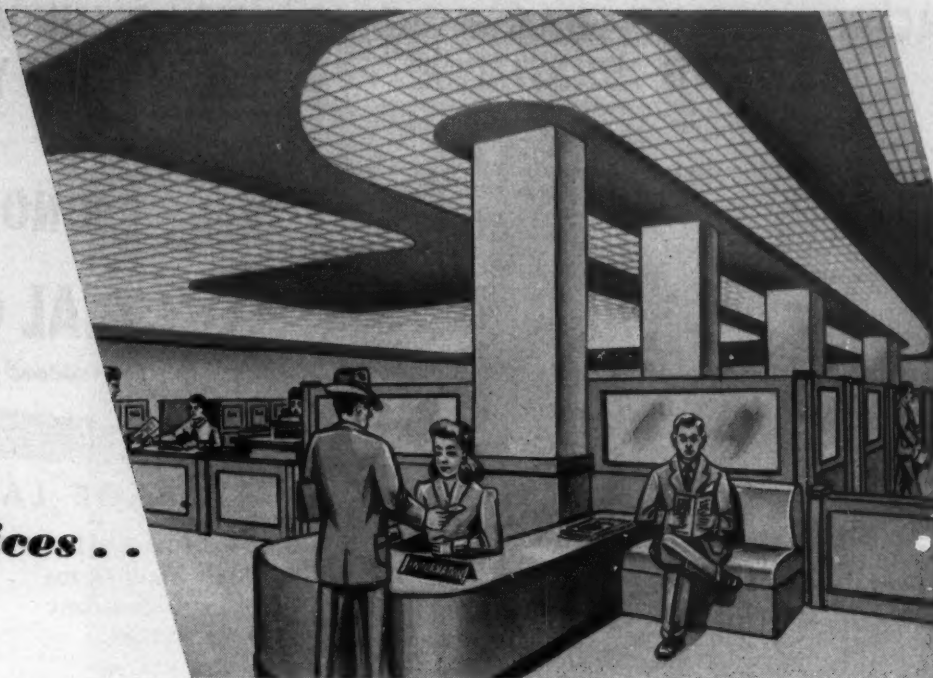
Built up to a quality — not down to a price. SHEPARD Elevators offer you high dependable service at low maintenance costs. For that new elevator you're planning or the old one you're modernizing — consult SHEPARD Engineers. Write for 58 page Elevator Planning Book.

THE SHEPARD ELEVATOR CO.
5008 Fl Brotherton Rd.
Cincinnati 9, Ohio

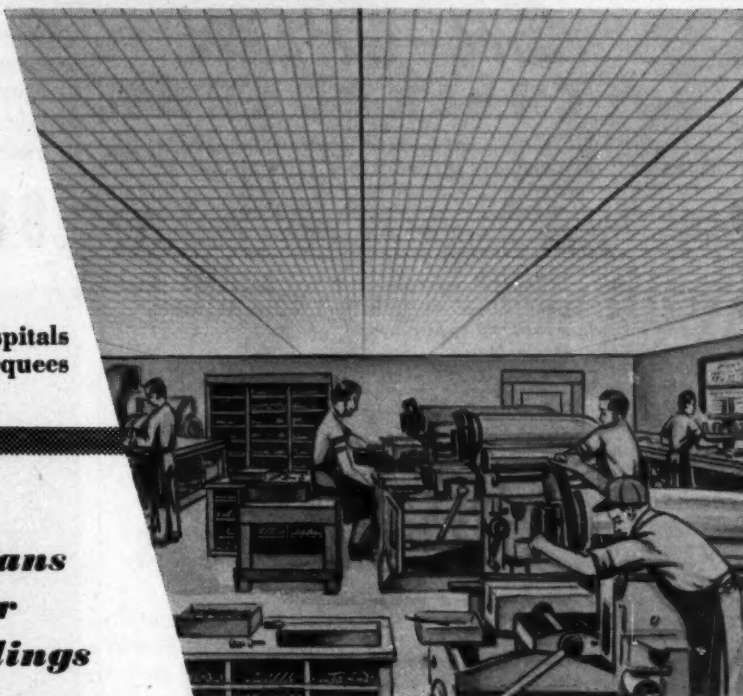
ELEVATORS



for Offices . .



for Plants . . .



**Tops for Banks . . Stores . . Schools . . Hospitals
.. Churches . . Showrooms . . Lobbies . . Marquees**

**Tops . . . Wherever Plans
Call for Patterns or
Complete Louvred Ceilings
Specify**

NEO-RAY ML LOUVRED CEILINGS

"A Name You Can Depend On"

Wherever you find a louvred ceiling that's "TOPS" you'll find NEO-RAY ML LOUVRED CEILINGS. It's the only louvred ceiling with so many patented and exclusive features: **perfect alignment** under all conditions . . . back to back track assembly . . . stock sections that can be cut on the job to meet any requirement . . . simple, labor-saving design for low cost installation. Discover these extras in NEO-RAY ML LOUVRED CEILINGS today. Get the facts!

See our catalog in Sweet's Architectural File for 1951, sec. $\frac{31a}{Ne}$

**NEO-RAY
PRODUCTS, Inc.**
315 East 22nd Street
New York 10, N. Y.

SEND FOR 64 PAGE CATALOG

Gives complete engineering data and lighting tables for each item in our complete line of fluorescent, slimline, and incandescent fixtures.

PLUS

New simplified spot lamp tables for computing light intensities in show windows and all high-lighted areas.

HOW to MAKE CLASSROOMS LIGHTER, BRIGHTER and MORE CHEERFUL



Rowles **See-GREEN CHALKBOARDS**

See-GREEN is a soft, pleasing light green color tone for chalkboards that brightens any classroom. It's a cool restful color that helps reduce the sharp contrast between chalkboard and walls and helps reflect both the natural and artificial illumination to make the room lighter and brighter in every corner. It's glare-free and easy-to-look-at.

Rowles offers three famous chalkboards—ENDURAROC, PERMASITE and DUROPLATE—one to fill every need. All three available in See-GREEN or regular black.

Rowles **See-GREEN BULLETIN BOARDS**

It's new! A fresh inviting new light green color for bulletin boards that harmonizes perfectly with See-GREEN Chalkboards. Helps make classrooms brighter and increases the effectiveness of classroom illumination.

See-GREEN Bulletin Boards for permanent installation are available in PERMA KORK, $\frac{1}{4}$ " unmounted or $\frac{1}{2}$ " thick mounted. It is also available in DURATEX, a $\frac{1}{8}$ " cork bonded to $\frac{3}{8}$ " fiberboard.

ALUMINUM CHALKBOARD TRIM

Complete your installation of See-GREEN Chalkboards and See-GREEN Bulletin Boards with bright satin-finished Rowles Aluminum Chalkboard Trim. Modern, durable and easy to install. Moldings available for every type of mounting on any type of wall. Also matching aluminum chalktrough with end caps.

The complete story of these products together with specifications may be found in Sweet's Architectural Catalog or may be obtained by writing direct to

E. W. A. ROWLES COMPANY
ARLINGTON HEIGHTS, ILLINOIS

WHEN PLANNING SCHOOL LIGHTING KNOW WHAT YOU SHOULD KNOW

ABOUT THE

REAL ECONOMY & EFFICIENCY OF COLONIAL COLD CATHODE *Fluorescent Lamps & Fixtures*



AVERAGE LAMP LIFE 7 YEARS

COLONIAL COLD CATHODE LAMPS

- ★ LOW GLARE FACTOR
- ★ LOW STROBOSCOPIC
- ★ NO STARTERS
- ★ NO FLICKERING

COLONIAL COLD CATHODE FIXTURES

- ★ CONSTANT VOLTAGE 750V TRANSFORMERS
- ★ BAKED ENAMEL FINISH
- ★ UNION MADE
- ★ UNDERWRITERS APPROVED

Schools
Now Report
Four Years
MAINTENANCE
FREE
Operation

Send for School Lighting
Guide, Fixture Catalog,
and list of schools
now using
Colonial Cold Cathode.

COLONIAL 115 MARKET ST., EAST PATERSON, N. J.
ELECTRIC PRODUCTS, INC.

for Long-Life Roofing

YOU CAN
COUNT ON



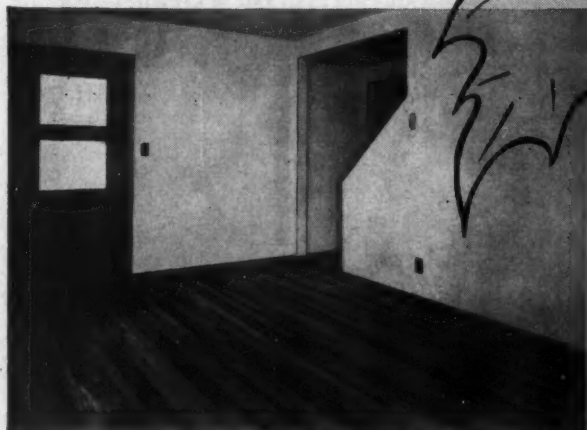
KOPPERS COMPANY, INC.
Pittsburgh 19, Pa.

- FACTORY
- SCHOOL
- HOUSING
- MILITARY
- RECREATIONAL

in **ANY**
service—
**NORTHERN
HARD MAPLE**



— takes
tough use
"in stride"



Southlawn Housing Project, Milwaukee. Architects: Ralph E. Schaefer, Frederick J. Schweitzer, George G. Schneider, Walter M. Trapp, Fritz von Grossmann. Contractor: Kroening Eng. Co., Milwaukee.



Floor of patterned Northern Hard Maple in Koppy Tool & Die plant, Ferndale, Mich. Campbell Const. Co., Gen'l Contractors.

● Even those most familiar with Northern Hard Maple are constantly impressed with the way this handsomest of floors stands up under the severest of service. Often, in building, one has to forego something of beauty to be sure of sturdy

endurance...or something of style to attain economy. But not with maple! The tough stamina that takes the beating of bowling alley and butcher's block is hidden in grain patterns of delicate loveliness, texture of satin smoothness, *resiliency* that resists even violent, pointed impact and pressure. And MFMA grading standards provide true economy with no penalty. Second and Third Grades (or Second-and-Better, Third-and-Better), in strips, blocks and patterned designs, produce floors of genuine beauty and unimpaired endurance. SEE SWEET'S, Arch. 13i/MA, for detailed specification data on MFMA Northern Hard Maple—"the finest floor that grows"—or write:

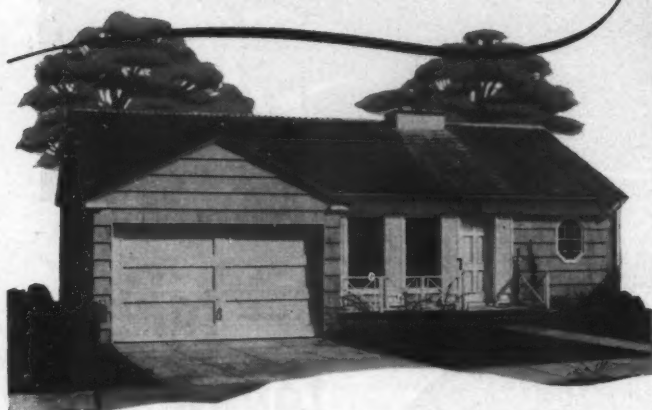
MAPLE FLOORING MANUFACTURERS ASSOCIATION
Suite 563, Pure Oil Building, 35 East Wacker Drive
CHICAGO 1, ILL.

FLOOR WITH *NORTHERN* HARD MAPLE
BEECH AND BIRCH

Design for Beauty and Economy

WITH COLORFUL

Shakertown SIDEWALLS



Homes sell faster, sell easier with these Certigrade cedar shingle sidewalls

... and no wonder! "My jobs," reports a leading New York A.I.A.A. member, "sell like hotcakes in today's competitive market when I feature Shakertown Sidewalls... with their distinctive color-styling and added cost-saving advantages, Shakertowns are the outstanding sidewall for quality-built homes in every price range."

Double-coursing Gives Double Value — Are you featuring these Certigrade No. 1 straight-grain cedar shingle exteriors? Shakertowns are rich in appearance—provide deep shadow-lines with wide exposure for distinctly different homes. Shakertowns look better, last longer, cost less for every year of care-free service. Why not contact your builder-lumber suppliers for details—or write direct—today!

Your Assurance... of proved reliability and performance is the Shakertown trademark. It's a recognized symbol for excellence in quality, backed by over a quarter-century of specialized experience in cedar shingle production.



The PERMA
PRODUCTS Company



3485 BROADWAY AVE. CLEVELAND 27, OHIO


marble

for easy-to-clean,
permanent Beauty!



Marble — the economical material that adds a note of elegance to every home. It's so easy to keep lustrous and beautiful, so adaptable to every decorative scheme, so modern in appearance and use!

See how Marble can help beautify your home by writing now for a FREE copy of "Marble For The Home", to:

MARBLE  INSTITUTE OF AMERICA, INC.
108 FORSTER AVENUE, MOUNT VERNON, N. Y.

• CLIP THIS AD TO YOUR LETTERHEAD AND MAIL

AD TO YOUR LETTERHEAD AND MAIL FOR FULL INFORMATION



Dorex Air Recovery "manufactures" new air by passing *used* air through Dorex Activated Carbon, the most powerful adsorbing agent known. More than 6,000 users and 20 years' experience indicate that every \$100 invested in Dorex should return a \$400 saving in the cost of original heating and cooling equipment. In use, every \$1.00 spent for Dorex maintenance should produce a \$4.00 saving in operating costs. Get the full story of Dorex Air Recovery savings today.

W. B. CONNOR ENGINEERING CORP. • DANBURY, CONN.
In Canada: Douglas Engineering Company, Ltd.
190 Murray Street, Montreal 3, P. Q.

AND MAIL FOR FULL INFORMATION • CLIP THIS

FOR FULL INFORMATION • CLIP THIS AD TO YOUR LETTERHEAD

Announcing the 1951

Award

of the Concrete Reinforcing Steel Institute to

CARL A. MENZEL



Carl A. Menzel (left) receives the 1951 C. R. S. I. Award from Henry G. Turner, Jr., President of the Turner Construction Company and Chairman of the Award Committee. The presentation was made on April 19, at the 27th Annual Meeting of the C. R. S. I. held at The Homestead, Hot Springs, Virginia.

... in recognition of his contribution to the development of the A305 reinforcing bar

● The Concrete Reinforcing Steel Institute's Award Committee, composed of representatives from *The American Concrete Institute*, *The American Society of Civil Engineers*, and *The Associated General Contractors of America*, has given the 1951 C. R. S. I. Award to Carl A. Menzel. Mr. Menzel received the Award for his contribution to the development of the new ASTM-A305 deformed reinforcing bar. This bar, which represents the first accepted standard on reinforcing bar deformations, has substantially greater bonding strength than plain or conventional deformed bars. It makes possible less costly, sounder, more permanent reinforced concrete structures requiring less steel. The new bar is now recognized in the revised ACI "Building Code Requirements," and is being rolled by every large producer.

CARL A. MENZEL is well known to the engineering profession for his research and development work in concrete and concrete products. In 1932, he received ASTM's Dudley Medal, and in 1948, ACI's Wason Medal for research in concrete problems. He is also the author of many papers on the subject. Mr. Menzel is a graduate of the University of Illinois.

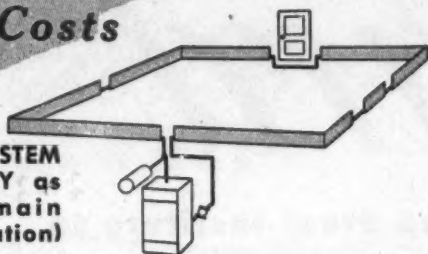


**CONCRETE REINFORCING
STEEL INSTITUTE**

38 South Dearborn Street, Chicago 3, Illinois

Actually this **B**ase-Ray Installation **C**uts Costs

SERIES LOOP SYSTEM
with BASE-RAY as
part of the main
(forced circulation)



and it's as easy as **A B C** to hook up!

Study, for a minute, the diagram shown above. It tells the whole story. Installed in series, each BASE-RAY* panel becomes part of the main. This can mean a saving in labor, pipe and fittings up to 50% of installation cost. In many cases, this saving is the determining factor in the landing of contracts. Further details on this Series Loop System, recommended by I-B-R, are given in their new Guide No. 5.

LOOK at these Five Features

1. RADIANT COMFORT
2. DURABILITY
3. APPEARANCE
4. LOCATION WHERE HEAT LOSS IS GREATEST
5. LOW FLOOR-TO-CEILING TEMPERATURE DIFFERENTIAL



*Reg. U. S. Pat. Off.

Below: Cast as a single unit, the fins on BASE-RAY are permanent. That's why BASE-RAY'S efficiency is so much greater.

Above: The low, sweeping lines of BASE-RAY add beauty to any room and make this method of heating particularly appealing to women.



THE IMPORTANCE OF CAST-IRON CONSTRUCTION. BASE-RAY Radiant Baseboards are made of cast iron, the metal which combines excellent heat conductivity with lifelong service. Its durability has proven it to be superior to all other metals. Many Burnham cast-iron heating units are still giving dependable service after more than a half century of use.

Burnham Corporation

"PIONEERS OF RADIANT BASEBOARD HEATING"

IRVINGTON, N. Y., Dept. AR-61

FREE! NEW, REVISED "Ratings and Installation Guide on BASE-RAY Radiant Baseboards." Send for it today.



Burnham Corporation
Irvington, N. Y.

Dept. AR-61

Please send me copy of "Ratings and Installation Guide" on BASE-RAY Radiant Baseboards.

Name.....

Address.....

City.....

State.....



dependable low-cost **protection**

FOR BUILDINGS OF ALL SIZES

BIG BUILDINGS need SISALKRAFT: As protective covers for materials . . . for curing and protecting concrete slabs . . . for "closing in", etc.

SMALL BUILDINGS and **HOMES** need SISALKRAFT: As waterproof membrane between subfill and concrete slabs . . . as sheathing paper . . . moisture-vapor barrier . . . wind, dust, dirt barriers . . . under all flooring, and for many other uses. SISALATION Reflective Insulation combines insulation and vapor-barrier . . . most economical!

WRITE for free SISALKRAFT Architectural Specifications Portfolio, samples included.



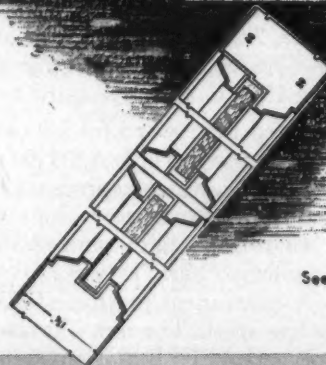
THE SISALKRAFT CO.

Dept. AR6 • 205 W. Wacker Drive • Chicago 6, Illinois
New York 17, N. Y. • San Francisco 5, Calif.

Manufacturers of SISALKRAFT • SISALATION • COPPER ARMORED SISALKRAFT

Hollow

Metal



See Our Catalog in Sweet's

**JAMESTOWN METAL
CORPORATION**

104 BLACKSTONE AVENUE JAMESTOWN, N. Y.

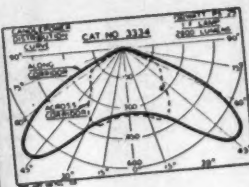
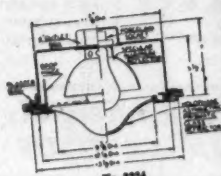
ART METAL

details product performance and construction to speed Specification Writing and Installation Planning for all Types of

INCANDESCENT LIGHTING

CORRIDOR HOLOPHANE ASYMMETRIC PRISMATIC GLASS REFRACTOR

RECESSED TYPE



Cat. No.	Distribution Characteristic	Refractor Size	Min. Watts	Face Plate	Insert Box Size
3334	Asymmetric	9 1/2" Dia.	150	13 1/2" Dia.	11 1/4" Dia. x 7"
	Drop Hinged Door				
	One Lamp—Position Vertical				
	FINISH: Drop Hinged Door Baked White Enamel—Trim Baked White Enamel				
	Reflector: Specular Aluminum				

Holophane Prismatic Glass Refractor provides an Asymmetric (corridor-type) light distribution.
Lamp position—vertical (1-150W).
Spherical Reflector is made of 30-gauge aluminum. Finished specular, and cooperates with the refractor for maximum efficiency.
Refractor holder door is drop hinged.

SPECIFICATIONS

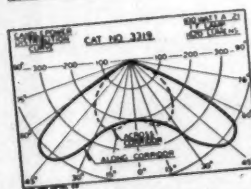
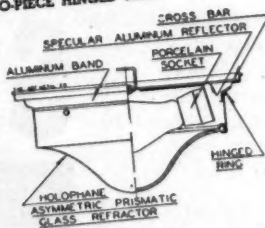
Insert Box and Trim are one integral assembly, made of .027 gauge steel, and processed to resist rust.
Furnished complete with Adjustable Plaster Ring and a 4" Outlet Box.
Approved by Underwriters Laboratories, Inc.
Finish is Baked White Enamel inside and outside—the Drop Hinged Door is Baked White Enamel.

VENTILATED SURFACE TYPE—TWO-PIECE HINGED BAND

Holophane Prismatic Glass Refractor provides an Asymmetric (corridor-type) light distribution.



No. 3319 12" Dia. 1 1/4" O.R. Glass 18"x3" 100W
FINISH: Brushed Aluminum.
Complete with Reflector Plate and Cross Bar.
Made of Aluminum.



Approved by Underwriters Laboratories, Inc.

THE ART METAL COMPANY

Page 36

This page of
**CORRIDOR
LIGHTING**
is one of many
specific
lighting types

Explicit Catalog Data

- 99 Product Illustrations
- 51 Cross Section Details
- 47 Light Distribution Curves
- 24 Coefficient of Utilization Tables
- .. Detailed Product Specifications
- .. Applications
- .. Data
- .. General Engineering Information

Write on your letterhead for free catalog, INCANDESCENT UNIFIED LIGHTING

THE **ART METAL** COMPANY • CLEVELAND 3, OHIO

Manufacturers of Unified Lighting Equipment for Office, Store, School, Hospital and Hotel

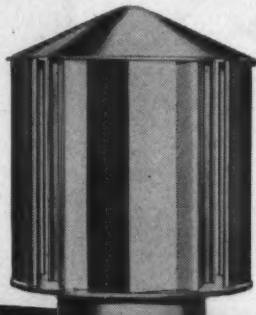
There's an Art Metal Incandescent Unit for every lighting need.

Art Metal Unified Lighting standardizes the design, style and finish of each unit, to achieve an architecturally integrated installation.

When you consider VENTILATORS

Ask for **PROOF** OF PERFORMANCE!

Claims are a dime a dozen in the ventilating field. The only way to be sure of what you're buying in any make of ventilator is to insist on certified capacity ratings derived from tests made with the wind blowing against the ventilator in all directions as shown below. True performance under actual operating conditions can be determined only by such tests!



Patent No.
2269428

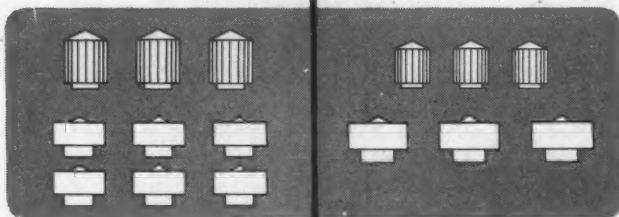
Breidert Air-X-Hausters

give you **CERTIFIED** and Published
Capacity Ratings



Breidert ratings are based on tests made with wind blowing in all directions.* No matter which way the wind blows, barring interior negative pressures, the Breidert provides safe, sure ventilation ... on roofs, vent flues, chimney tops. Stationary, no moving parts, nothing to jam or get out of order.

**HOW YOU CAN GET BETTER RESULTS
WITH LESS MONEY**



It takes fewer Breiderts to do the job as same size conventional ventilators.

(or)

You can use the same number of smaller size Breiderts to do the same job as conventional ventilators.

Get all the facts! Write today for complete Engineering Data Book, including certified capacity ratings. Address Dept. F.

*By Pittsburgh Testing Laboratories

THE G. C. BREIDERT CO.

3129 San Fernando Road, Los Angeles 65, Calif.
Representatives in principal cities throughout the U.S.



GO ON FAST,
GO ON FOREVER!

FEDERAL- *Featherweight* STRUCTURAL CONCRETE PRECAST ROOF SLABS

CHANNEL ROOF DECK SLABS for use with composition covering. NAILING CONCRETE SLABS to hold securely, slate, tile, copper or other ornamental roof.

THE LIGHTWEIGHT, PERMANENT, FIRE-SAFE, NO MAINTENANCE ROOF DECK



Write for Complete Catalog!

FEDERAL CEMENT TILE COMPANY

608 South Dearborn Street — Chicago 5, Illinois
For Forty-five Years . . . Sales Offices in Principal Cities

SAVE Maintenance AND Towel Costs WITH



Sani-Dri
ELECTRIC
Hand or Hair Dryers

Save valuable maintenance time and eliminate continuing towel expense. New, improved features make Sani-Dri faster drying . . . provide quick, automatic hand or hair drying service 24 hours a day year after year! Sani-Dri is a permanent solution to wash-room sanitation and drying problems—and SAVES UP to 85% of WASHROOM COSTS!

All Sani-Dri Electric Dryers are **GUARANTEED**, and have carried the Underwriter's Seal of Approval for over 18 years!

SEND FOR NEW BROCHURE showing all models and installation pictures.

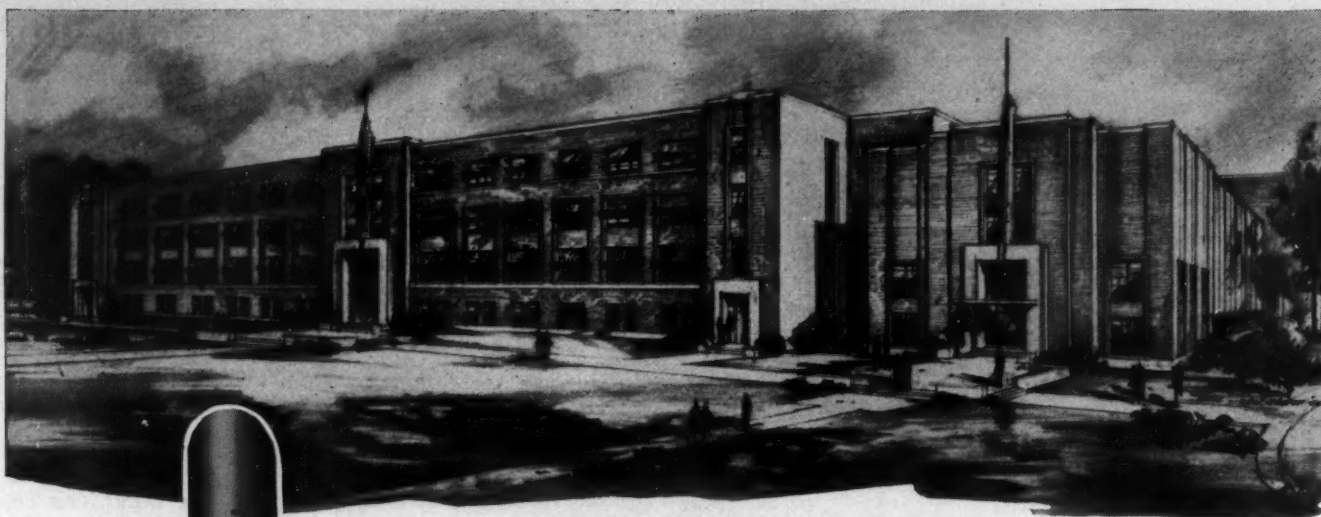


Distributors in Principal Cities

THE CHICAGO HARDWARE FOUNDRY CO.

"Dependable Since 1897"

8651 Commonwealth Ave. • North Chicago, Ill.



Divine Savior High School, Wauwatosa, Wisconsin; Architects: E. Brielmaier & Sons Co., Milwaukee; General Contractors: Hanzinger Construction Company, Milwaukee; Electrical Contractors: Magaw Electric Company, Milwaukee.



NEW MILLION-DOLLAR HIGH SCHOOL... *another job done safely and surely with* **ELECTRUNITE E.M.T. RACEWAYS**

Almost 8 miles of Republic ELECTRUNITE E.M.T. protect the wiring circuits in this modern, 1¼-million-dollar high school building. Conductors are completely protected from dampness, fire, and mechanical damage. Fire-resistance of all types of buildings is increased. Surveys show wiring costs are reduced and building completion is speeded . . . sound reasons for specifying rigid raceways of "ELECTRUNITE E.M.T."

ELECTRUNITE E.M.T. is the light-but-strong, threadless, rigid steel raceway. It's inspected by Underwriters' Laboratories, meets the National Electrical Code and most local codes for exposed, concealed, and concrete-slab installations. Inch-marking, plus uniform structure and walls, make ELECTRUNITE E.M.T. easy to cut, bend, and install. Concrete-tight connectors and couplings make sturdy joints . . . eliminate thread cutting. Knurled inside surface assures easy, trouble-free fishing and wire pulling.

REPUBLIC STEEL CORPORATION
STEEL AND TUBES DIVISION • CLEVELAND 8, OHIO
Export Department: Chrysler Building, New York 17, N. Y.

SEE SWEET'S FILE

or write us for detailed information on these Republic Building Products:

Pipe—Sheets—Roofing
Endure Stainless Steel
Tenton Enameling Iron
Electrunite E.M.T.
Republic Rigid Steel Conduit
Berger Lockers, Bins, Shelving
Berger Cabinets for Kitchens
Truscon Steel Windows, Doors,
Joists and other Building Products

Republic
ELECTRUNITE E.M.T.



LIGHTWEIGHT THREADLESS RIGID STEEL RACEWAY



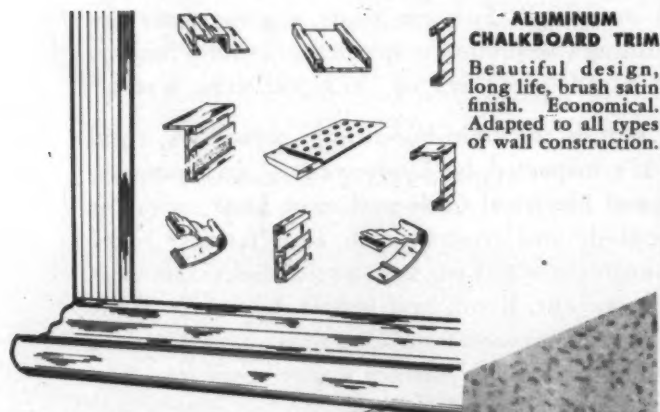
HARDER SURFACE ... extra dense synthetic plastic applied with heat to smooth, shatterproof panels ... finish hardened under high temperature.

PERMANENT ... 6000 lbs. per inch tensile strength ... designed to become a permanent part of building ... moisture-proof, dent-proof, washable and trouble free.

EYE RESTING and EYE ARRESTING ... Clean surface assures sharp contrast to chalk marks ... peak visibility at all times. Avoids "chalk-clouds" or irremovable gray surface smudge. Harmonizes with any decorative scheme.

EASILY INSTALLED ... mount on any wall directly against plaster, brick or cement block.

SPECIFICATIONS ... standard lengths: any even foot up to 12 ft. inclusive ... widths 3, 3½ and 4 feet. Thickness ¾ to 1½ inch. Weight approximately 2½ lbs. per square foot.



CORKBOARDS

Soft cork for easy thumb-tacking ... longer wear. Resilient, yet strongly reinforced with heavy gauge burlap. Never hardens or gets brittle. Fadeproof pastel colors: Desert Sand, Dusty Green, Gray-tone, Green-tone, Natural Tan.

Send for Booklet No. 18
CLARIDGE
PRODUCTS

6731 N. Olmstead Avenue, Chicago 31, Ill.

Sweet's

23e
CI
1951

POSITIONS OPEN

ASSISTANT ARCHITECTURAL ENGINEER — 2 to 5 years' experience preparing architectural plans and specifications various types industrial buildings. Permanent opportunity. Excellent retirement plan, free insurance. Write details to Personnel Division, H. J. Heinz Company, P. O. Box 57, Pittsburgh 30, Pa.

ENGINEERING FIRM — specializing in structural, hydraulic and mechanical engineering and now handling several government contracts, wants a connection with a leading architectural concern, to handle architectural and layout work. This engineering firm with motto "Plans ready for bids in 48 hours", has 3 partners and 11 associates, 6 of whom are professors, known specialists in various fields of engineering. Write Box 528, *Architectural Record*, 119 W. 40th St., New York 18.

POSITION SOUGHT

GRADUATE ARCHITECT-DESIGNER — Studied with architects internationally known for modern work. Work in nationally known offices. Desires modern design only, plus contact with all aspects of job. Wants proposition with future. Box 529, *Architectural Record*, 119 W. 40th St., New York 18.



Add up the savings in initial cost, monthly fuel bill, and maintenance charges obtainable with Dravo Heaters and you have gone a long way in helping to offset today's unusually high cost of building.

Dravo Counterflo Heaters have other money-saving advantages, too: interchangeability of gas burners with oil burners—combination gas-oil burning arrangement available at purchaser's option—large capacities ranging upward from 400,000 Btu output—control and fan systems arranged for summer ventilating service—stainless steel combustion chambers for extra long life—immediate availability. Write for Bulletin LE-523 for full description.

DRAVO CORPORATION

DRAVO BUILDING, PITTSBURGH 22, PA.

Sales Representatives in Principal Cities

Mfd. and Sold in Canada by Marine Industries, Ltd., Sorel, Quebec





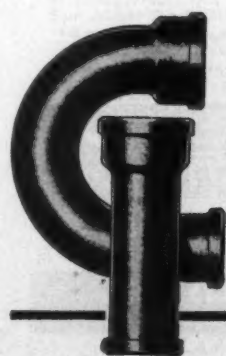
Start your specifications at the street

Too often detailed material specifications begin at the foundation—without specifying the material for the building sewer leading from the foundation to the street sewer. This invites future trouble—and client dissatisfaction. For replacing the house line means the expense and inconvenience of interrupted service, uprooted landscaping and messy digging.

A sure way to avoid these difficulties for your client is to specify **cast iron soil pipe** and fittings throughout—from street sewer to roof vent. For cast iron is the only available material that has withstood the test of time—has proved itself in thousands of plumbing applications.

CAST IRON SOIL PIPE INSTITUTE

Heurich Building, 1627 K. St., N.W., Washington 6, D. C.

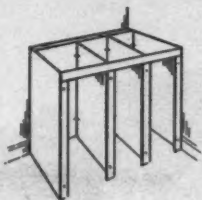


CAST IRON SOIL PIPE INSTITUTE

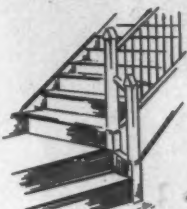
Alabama Pipe Company
The American Brass & Iron Foundry
Anniston Foundry Company
Anniston Soil Pipe Company
Attalla Pipe & Foundry Company, Inc.
Buffalo Pipe & Foundry Corporation
The Central Foundry Company
Charlotte Pipe & Foundry Company
Combustion Engineering—Superheater, Inc.
Crown Pipe & Foundry, Inc.
The Eastern Foundry Company
East Penn Foundry Company
Emery Pipe & Foundry Company
Hajoca Corporation

Herco Foundry, Inc.
T. C. King Pipe & Foundry Company
Pacific Cast Iron Pipe & Fitting Company
Peerless Pipe & Foundry Company, Inc.
Reading Foundry Company
Rich Manufacturing Company of California
Rudisill Foundry Company
Sanitary Company of America
Somerville Iron Works
Tyler Pipe & Foundry Company
Walker Machine & Foundry Corporation
Western Foundry Company
Williamstown Foundry Corporation

This advertisement is sponsored by



Toilet partitions



Stair treads



College roofs



Laboratory tables

Natural Slate for many school uses

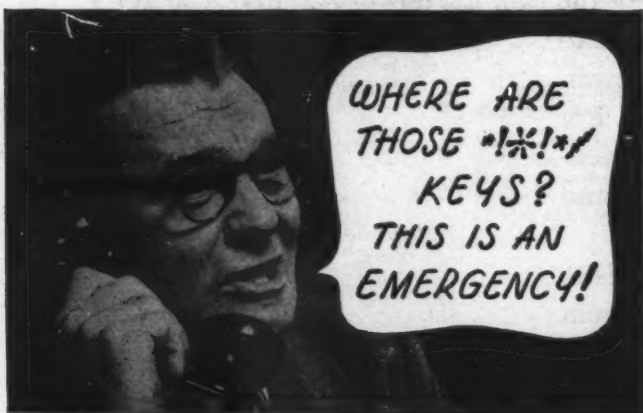
You'll find new college buildings using natural slate in ever increasing quantity today. It's a "natural" for today's buildings, because it means low upkeep, maximum ease of use, and maximum serviceability and length of life. Slate possesses a durability that makes it ideal for blackboards, roofs, stair treads, toilet partitions, laboratory table tops, and many other uses. It's tough, but with an elasticity that makes it resistant to strain, shock, blows and the effect of settlement.



*Play Safe
with slate*

**NATURAL SLATE BLACKBOARD COMPANY
THE STRUCTURAL SLATE COMPANY**

Pen Argyl, Penna.



Read how MOORE KEY CONTROL*
can save money and man-hours

You owe it to your client to investigate this modern system of key control. It saves money year in and year out by eliminating expensive repairs and replacement of locks and keys. What's more, it guarantees security, convenience and privacy. No wonder more architects every year now specify Moore Key Control for use throughout schools, institutions, hospitals, hotels... in all of locks and keys. What's more, factories and buildings where keys are used.

TELKEE
TRADE MARKS

Mail Coupon
today for
Free Booklet

P. O. MOORE, INC., Dept. A-3
300 Fourth Ave., New York 10, N. Y.

Please send me special architect's manual for my A.I.A. file on MOORE KEY CONTROL.

Name.....

Address.....

City, State.....

SERVICISED DEEP LIP SAFETY TREAD for SAFETY, APPEARANCE, LONG WEAR



- Easily applied to steel, wood or concrete—old or new.
- Abrasive non-slip surface.
- Reduces Traffic Noise.

● Serviced Deep Lip Safety Treads are made of a tough, resilient rubber compound in which an abrasive aggregate has been securely embedded throughout the wearing surface. Easily applied to any surface—old or new. Deep Lip Safety Tread is 1/4" thick by 3" wide, and comes in lengths up to 84" or less. Lip depth 1 1/4". Available in Buff, Gray, Green, Red or Black.

Write for
Samples, Prices
and Complete
Details



SERVICISED PRODUCTS CORP.
6051 W. 65th ST., CHICAGO 38, ILL.

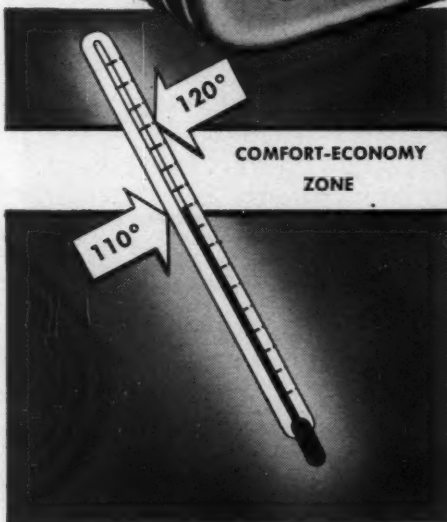


Engineers Rate Modine the
Standard of Excellence

COMPARE FIRST...

...YOU'LL CHOOSE

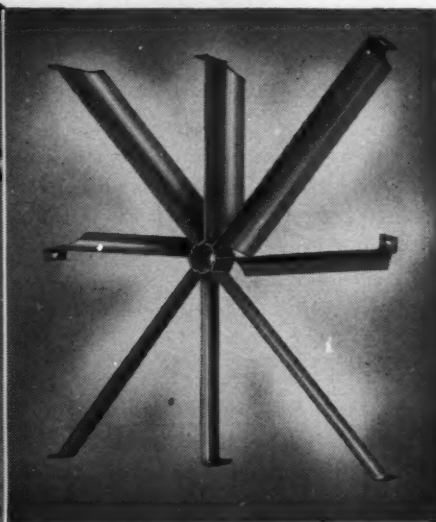
MODINE UNIT HEATERS



Discharge air temperatures of 110°-120° F. . . correctly related to air velocities assure perfect heating comfort, lower fuel costs.



Direct-from-pipe suspension is safe and economical. Heated air stream may be easily re-directed over full 360° range.



Built-in velocity generator effectively steps up heat-throw, permitting positive penetration of cold air strata near floor.

Three of many outstanding features which account for the Modine quality reputation



Whether you choose Modine *Horizontal*, *Vertical* or *Power-Throw* Unit Heaters you are assured of unequalled heating performance — high fuel economy — low operating and maintenance costs . . . for years and years. Beautifully styled — yes! But it's the advanced engineering design features, highest grade materials and workmanship that account for this famous Modine built-in quality. No wonder engineers rate Modine the standard of excellence among unit heaters. *Yes, compare first . . . and you too will choose Modines.* Modine Manufacturing Co., 1510 Dekoven Ave., Racine, Wisconsin.



Ask for Modine Unit Heater Bulletin 149A. Also available — bulletins covering special applications in commercial brooder houses, greenhouses, milk houses and many other applications.

Modine UNIT HEATERS



The practical, economical heating system for schools . . . Vulcan Radiation combines the advantages of radiant and convection heat, providing the even, floor-to-ceiling warmth so essential to classroom comfort. Attractive, modern covers (Type S shown above) provide protection against damage to clothing. Sloping top prevents children from climbing on it or pushing pencils into it. Cover is rigidly supported by strong steel brackets.

DRAFT-FREE COMFORT

Vulcan continuous-line radiation installed along outside walls under large, modern window areas, in the classroom, gymnasium or natatorium minimizes cold-air drafts; assures positive balanced heat distribution.

COMPACT INSTALLATION

Designed for either steam or forced hot water, Vulcan occupies less space, provides more heat . . . is adaptable to any wall structure or room design.

EASY TO INSTALL

Vulcan Radiation is easy to install because it is light in weight, requires few fittings and supports. Available in any desired length.

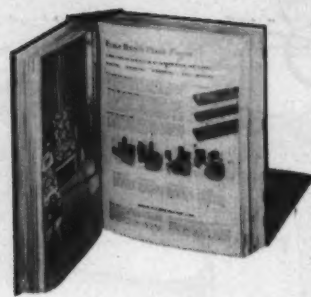
Complete Data in Sweet's Architectural File.

THE VULCAN RADIATOR COMPANY

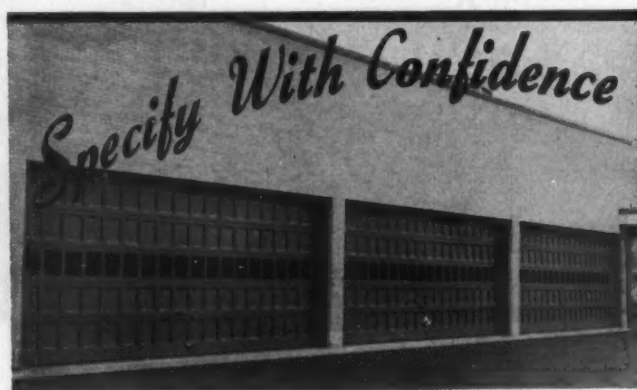


26 FRANCIS AVENUE
HARTFORD 6, CONN.

RADIATOR MANUFACTURERS FOR OVER TWO DECADES



*In your new Sweet's File
see section $\frac{13i}{Bru}$ on
Bruce Hardwood Floors*



The RAYNOR Complete Line of Wood Sectional Overhead **DOORS**

The entire Raynor organization is at the service of architects to assist them in equipping every door installation with the finest in overhead door equipment.

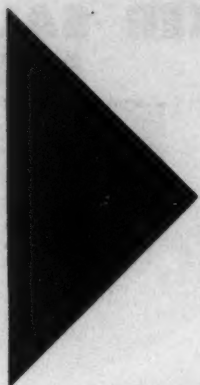


● Write direct
or contact the nearest
Raynor representative
for complete information
and illustrations.



RAYNOR MFG. CO.

Ray Street, Dixon, Illinois



as fundamental as
built-in plumbing...



Leo L. Fischer, Architect



*A good plan
is always better
when it includes
symbols for
telephone outlets.*

You wouldn't think of designing a home without concealed *water pipes*. Yet without telephone raceways, there's always the chance that *telephone wires* will be exposed.

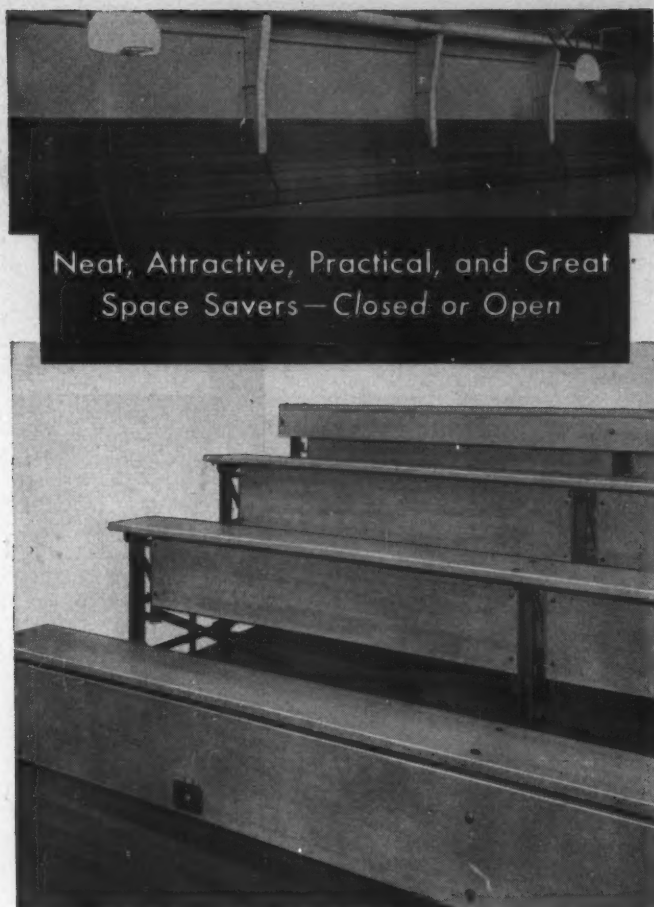
To protect the beauty of thoughtfully planned interiors, it's always wise to specify built-in telephone raceways.

Your Bell Telephone Company will be glad to help you plan economical telephone conduit installations.

Just call your nearest Business Office.

BELL TELEPHONE SYSTEM





Neat, Attractive, Practical, and Great
Space Savers—Closed or Open

Universal ROLL-AWAY Gym Stands Now Available with VERTICAL FILLER BOARDS UNDER SEATS —Many Exclusive Advantages—

Universal Roll-A-Way Stands offer the ideal solution to practically any gymnasium seating problem. Custom built to specifications, they are compact, yet roomy and comfortable...neat and attractive...exceptionally strong and safe. When not in use, they may be rolled back, providing approximately 70% more usable floor space. And now Roll-A-Way Stands are available with vertical filler boards (1" x 12" clear fir) under centers of all seats. These



fillers enclose the understructure, add rigidity to seats, and make the complete stands look even more substantial. Thanks to centered positions, they do not interfere with leg room under seats. All sweeping beneath stands is easily accomplished by folding back front row as illustrated at left. Write for details, prices.

Universal
BLEACHER COMPANY
606 SOUTH NEIL STREET • CHAMPAIGN, ILLINOIS
Bleacher Experts for Over 30 Years

STOKER SALES OFF? NOT WILL-BURT!



Will-Burt stoker sales are up!

Why? We're carrying on no special promotion — our advertising has not been increased. But for twenty years the knowledge has been spreading that Will-Burt is a good company with which to do business. Ask anyone who has specified, sold or used a Will-Burt stoker.

We have always put extra quality into Will-Burt stokers, and now it is paying off in increased sales.

If you want to do business with a company whose integrity can never be questioned, whose product is above-average, and who feels business can be pleasurable as well as profitable, drop us a line. Now you know... Will-Burt quality makes sales when sales come hard.



Write on your letterhead for the Will-Burt stoker data book, with engineering facts, dimension and installation drawings, suggested specification sheets, etc. Valuable!

Other Will-Burt
Heating Products

gas and oil conversion burners,
residential hot-water heating
boilers.



THE WILL-BURT COMPANY

DEPARTMENT A • • • ORRVILLE, OHIO



you can
see that

Trinity White
is the whitest
white cement!

You'll get fine results with this extra white cement. It's true Portland Cement made to ASTM and Federal Specifications. If your dealer does not have it, write the office nearest you: Trinity Portland Cement Division, General Portland Cement Co., 111 West Monroe St., Chicago; Republic Bank Bldg., Dallas; 816 W. 5th St., Los Angeles.

as white



as snow



A roofing sheet to remember
 ...for protection
 against
corrosion!



41 YEARS YOUNG. This batten type Monel roof on New York's Pennsylvania Station covers an area of 300,000 square feet. Installed in 1910, it gives every evidence of lasting for the rest of this century.

Here's a roofing sheet proved by time and severe conditions... Monel®.

It stands up against smoke... rain... chemical fumes... all kinds of corrosive atmospheres.

Monel can't rust, and it stubbornly resists corrosion by acids, alkalis and salts. This not only explains why Monel roofing lasts so long, but also why it needs so little maintenance.

At the moment—because of the demand for nickel and nickel alloys in the defense program—the use of Monel for building applications is prohibited by Government order.

But the time will come again when there is enough Monel available for normal roofing needs! Meanwhile, let INCO help you in planning for the future. Call on our Architectural Section for the latest technical information and literature. No obligation, of course.

monel

"For the Life of the Building"



THE INTERNATIONAL NICKEL COMPANY, INC.
 67 Wall Street, New York 5, N. Y.



Modernize Laboratories and Domestic Science Rooms with *Just Line* Equipment



Just Line Stainless Steel Equipment assures the utmost in Sanitation, Long Life and Service. The first cost is the only cost. That's why America's leading Schools install Just Line Stainless Steel equipment in their Laboratories and Domestic Science departments.

Write for Literature R-651 and send us your Specifications. Our Engineers will gladly cooperate with you in developing your plans.

Just Manufacturing Co.
4610-20 W. 21st Street, Chicago 50, Illinois

*For Aluminum,
Steel or Wood Windows*

SPECIFY
TREMGLAZE
MASTIC GLAZING COMPOUND
IN COLORS

NEEDS NO PAINTING

**DEPENDABILITY
PROVEN ON
ACTUAL JOBS
FOR OVER
10 YEARS**

On aluminum windows, Tremglaze meets Aluminum Window Manufacturers Assn. standards. Completed steel window installations cost no more with Tremglaze than with putty. Save on the paint contract—specify "Paint first—then Tremglaze". Put paint on the window where it belongs. CALL LOCAL TREMCO MAN—OR WRITE

NC 102a

THE TREMCO MANUFACTURING CO.
(Canada) LTD., TORONTO
Products and Methods for Building Construction and Maintenance

How You Save with the NEW Niagara Method of Air Conditioning Using "HYGROL" Absorbent Liquid

Because it absorbs moisture from the air directly, the new Niagara Controlled Humidity Method uses less, or no, mechanical refrigeration for dehumidifying. You save first costs and installing of heavy machinery. You save space, maintenance expense, power; get easier, more convenient operation.

Using "Hygrol" absorbent liquid gives complete control of temperature and relative humidity. Especially, it is a better way to obtain dry air for drying processes, packaging hygroscopic materials, preventing moisture damage to metals, and obtaining better quality for chemical process and food products—or in obtaining better results in comfort air conditioning at lower refrigeration costs.

Filtered air is dehumidified by passing through a spray of "Hygrol" which removes air-borne moisture. This liquid is non-corrosive; it contains no salts or solids to precipitate and cause maintenance troubles. It is continuously re-concentrated at the same rate at which it absorbs moisture, providing always the full capacity of the air conditioner, automatically.

Units provide a range of capacities from 1000 to 20,000 C. F. M. Multiple unit installations are in use successfully. Records of results are available. For further information, write Niagara Blower Co., Dept. AR, 405 Lexington Ave., New York 17, New York.



Food Packaging
under Controlled Humidity

Even the BANK OF NEW YORK —BANKS ON YORK

Take two multi-story buildings . . . Add that they were not designed for air conditioning, but that now air conditioning is wanted . . . Add that the most efficient use of funds is a must.

The sum total is a job unmistakably calling for York skill. As a result, the Bank of New York and Fifth Avenue Bank is now air conditioned by York—12 floors in its 48 Wall Street building and 13 floors in its 52 William Street building.

You are well acquainted with the difficulties of such an installation. And the choice of York to handle it points up York leadership again.

• • •

This is a timely illustration to cite because of two major developments that will increasingly affect the industry:

- 1 As new commercial construction is superseded by new defense work, there is a proportionately greater call for air conditioning in the modernization of existing buildings.
- 2 Air conditioning is being used more and more in the development of defense production techniques of still higher efficiency—a necessity and an exacting assignment.

In either situation, when you have an air conditioning problem you can profit by the things we have learned. Here's the York story to remember:

YORK offers you assistance with the most complete nationwide organization of trained engineers anywhere in the world.

YORK has had more experience in mechanical cooling than any other organization . . . 75 years of it . . . experience in doing jobs not easily solved by precedent.

YORK'S CERTIFIED MAINTENANCE CONTRACT relieves you of post-installation responsibility, and relieves the client of maintenance for a known-in-advance service fee.

YORK works through you . . . wherever possible all contract air conditioning is channeled through architects, engineers, contractors.

Check today with your nearby York Representative listed in the classified directory, or write York Corporation, York, Penna.



Architects on Air Conditioning:
Voorhees Walker Foley & Smith
Contractor: *Buensod-Stacey, Inc.*

Consulting Engineers: *Meyer, Strong & Jones*



The big advances come from

YORK

Headquarters for—Refrigeration and Air Conditioning

BASEBOARD RADIATION AT ITS BEST ... THAT'S BROWN BAYCE HEET

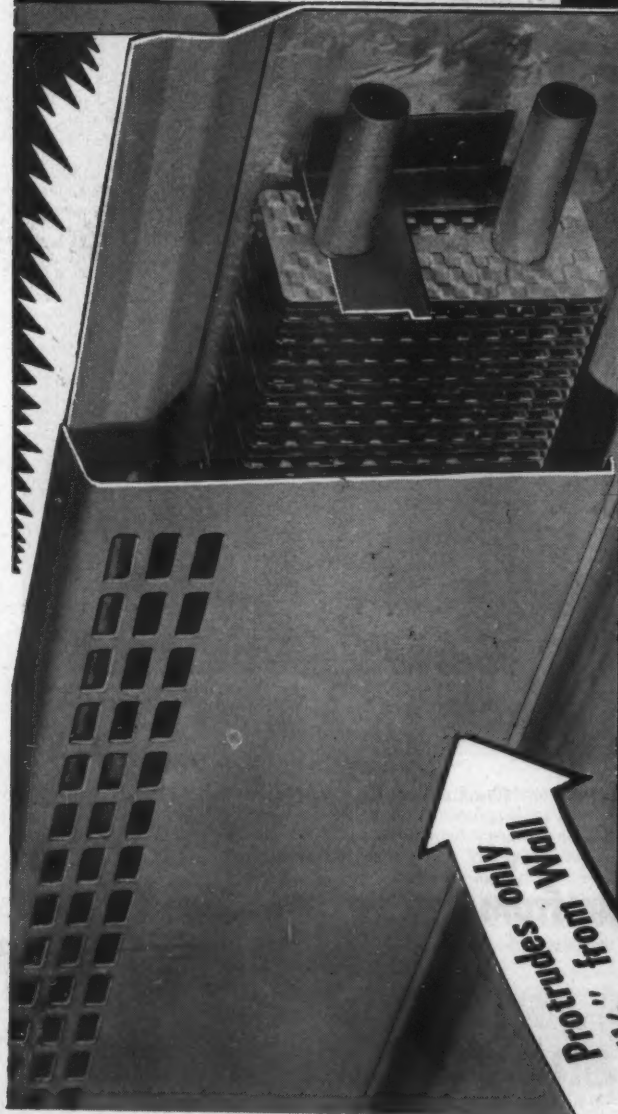
*The Smart Looking Aluminum
Fin Baseboard*

- Smart looking, protrudes only 1 1/8" from wall.
- 615 B.T.U. per linear foot with 170° average water temperature.
- Fins have amazing heat area due to exclusive beading process which provides greater radiation surface and durability.
- 5 ft. standard unit weighs only 12 lbs. ... requires only 3 simple wall brackets to install. Easily cut to any desired length.
- Closed top and open front prevent streaking wall.
- Removable front for easy cleaning.

Illustrated Brochure 4A on Request

FOREST HILLS, NEW YORK

BROWN PRODUCTS COMPANY



**1 1/8" from Wall
protrudes only**



*Throughout the
AIR CONDITIONING
Industry—*

AEROFIN FIN-TYPE
HEAT-TRANSFER UNITS
do the job Better,
Faster, Cheaper

AEROFIN CORPORATION
410 South Geddes St., Syracuse 1, N. Y.



Interior view of entrance, Walkill National Bank, N. Y.
The Bank Building & Equipment Corp. of America, Builders

ALUMILINE

*makes "light" of modernization problems
with Alumilited products that assure*

BEAUTY — STRENGTH — DURABILITY

- Extruded Aluminum Store Front Mouldings featuring extra heavy construction.
- Extrud-a-line Factory Assembled Entrances and Narrow Stile Hollow Metal Doors, furnished in Alumilited Aluminum or Bronze.
- Custom Built Alumilited Aluminum Windows.
- Custom Built Entrances and Doors to meet any condition.
- Alumilited Aluminum Flat Sheets.

Our Corrosion-Resistant Alumilited Finish greatly enhances the appearance of natural Aluminum and helps protect from scratches and marring.
Send for new 1951 Catalogue, "Construction Details and Selector Guide—Alumiline Store Fronts."
Please note our new mailing address is:

THE ALUMILINE CORPORATION

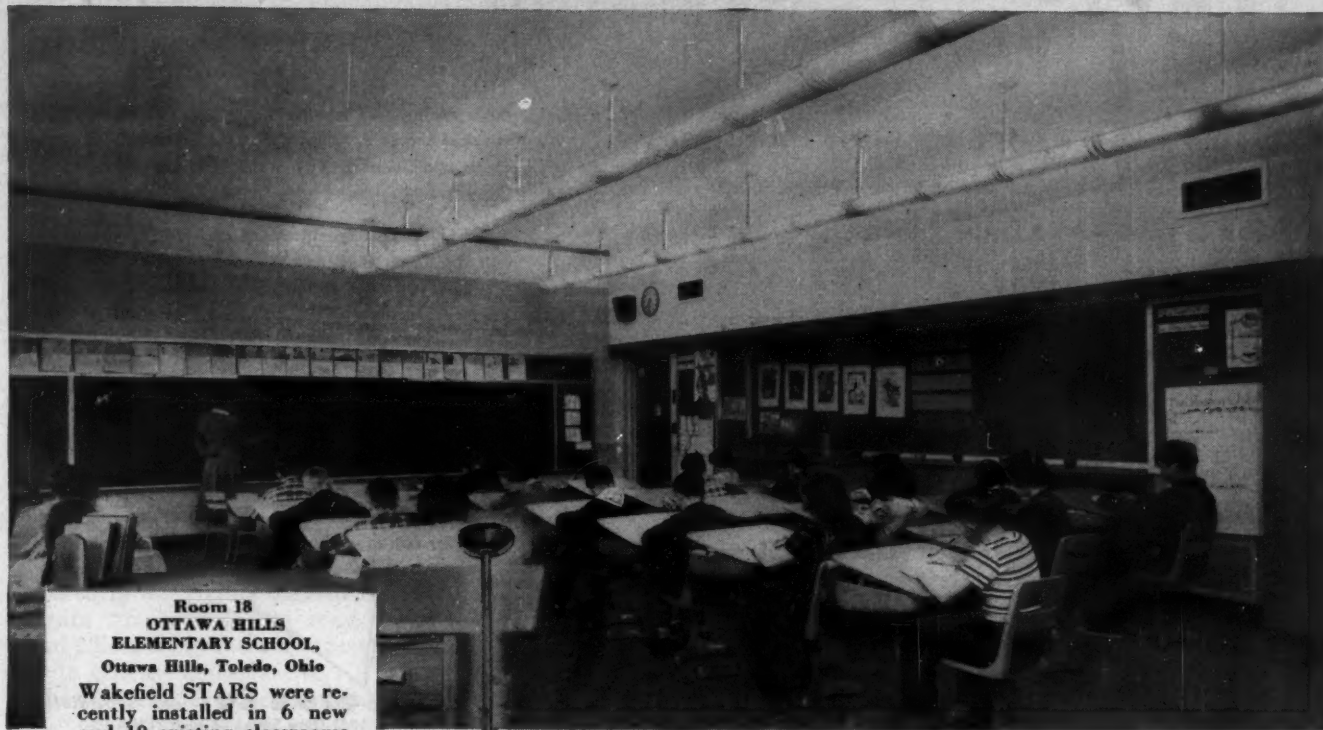
1540 COVERT STREET

BROOKLYN 27, N. Y.



Another Co-ordinated Classroom

lighted with Wakefield fluorescent Stars



Room 18
OTTAWA HILLS
ELEMENTARY SCHOOL,
Ottawa Hills, Toledo, Ohio

Wakefield STARS were recently installed in 6 new and 10 existing classrooms in Ottawa Hills Elementary School. Room 18 shown here has a functional layout for daytime use only; note omission of row by windows.



THE STAR has a translucent Plaskon reflector which completely shields the fluorescent lamps. When the lamps are lit the reflector and the ceiling above it are of approximately equal brightness. This is a basic requirement of supplementary lighting systems for co-ordinated classrooms.

Here we see another classroom in which daylighting, supplementary lighting, furniture and paint have been co-ordinated to produce a visually comfortable environment. And here again we see a luminous indirect lighting fixture used—the Wakefield Star.

- ① Only a luminous indirect fixture such as the Wakefield fluorescent Star (or the Wakefield incandescent Commodore) will provide smoothly distributed, well balanced light, free from glare and sharp brightness contrasts.
- ② Only a luminous indirect fixture such as the Wakefield Star (or Commodore) will create three-dimensional seeing conditions by making the ceiling the primary light source, with the fixture itself and the side walls becoming a secondary source.
- ③ Only a luminous indirect fixture like the Wakefield Star, which has a minimum of opaque cross-section and a maximum of translucency, will permit fullest transmission of upward beams of daylight from directional glass block.

We have prepared a new 20-page booklet dealing simply but comprehensively with the subject of modern classroom lighting. For your copy of "Supplementary Lighting for the Co-ordinated Classroom", write to The F. W. Wakefield Brass Company, Vermilion, Ohio.

Wakefield Over-ALL Lighting

BASIC FOR CO-ORDINATED CLASSROOMS



THE COMMODORE



THE STAR



THE WAKEFIELD CEILING



CUTS DAMAGE AND REPLACEMENT COSTS

NEW HEAVY-DUTY INDUSTRIAL GRILLE

CUSTOMED FOR FACTORY USE AND ABUSE

This grille especially designed for Atomic Energy Commission.

Contractors—

Maxon Construction Company

Eng. & Arch.—

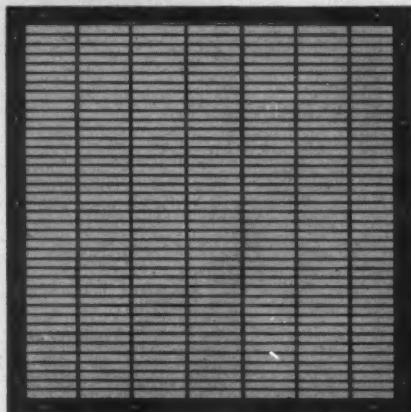
Giffels and Vallet, Inc.

L. Rossetti Associated,

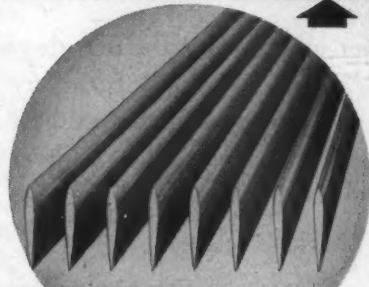
Eng. & Arch.

1000 Marquette Building
Detroit, Michigan

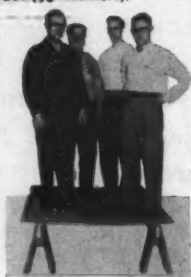
- 14 GAUGE STEEL BLADES
- VERTICAL SUPPORT BARS PLACED ON 6" CENTERS (14 GAUGE STEEL)
- STANDARD GRADE PRIMER COAT FINISH
- 16 GAUGE STEEL, EXTRA WIDE BORDER FOR EASY MOUNTING



Above—Grille face of LOWER WALL, INDUSTRIAL GRILLE. Note close spacing of extra-strength blades (3/4" centers).



Above—Close-up view of volume control section. Note famous solid section AIRFOIL LOUVERS. Each blade is individually adjustable. CONCEALED LOUVER SUPPORT eliminates mullions and buffed construction.



Above photo shows the 48" x 48" AIRFOIL INDUSTRIAL GRILLE supporting the combined weight of 4 Titus factory workers.

Airfoil

AIR CONDITIONING OUTLETS

More highly efficient . . . longer lasting . . . brand new . . . that's the AIRFOIL-DESIGNED, AIRFOIL-BUILT INDUSTRIAL GRILLE. Clean cut—compact—it is made in two sections . . . Grille Face and Volume Controller.

Rugged—braced for super-strength. The INDUSTRIAL GRILLE will stand up for years and years against the punishing knocks—jars—shocks—scratches and abuse that floor level grilles must take.

Write for new, **FREE** catalog.

TITUS MANUFACTURING CORP., WATERLOO, IOWA

☐ Rush FREE information on Industrial Grilles.

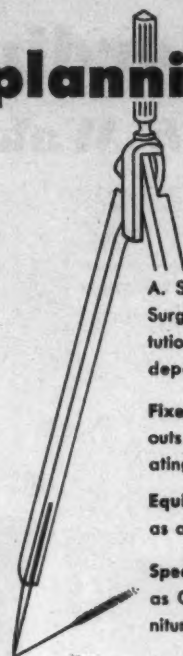
NAME _____

ADDRESS _____

CITY _____ STATE _____

planning a hospital?

.. let Aloe help you



A. S. Aloe Company, the world's largest Hospital, Surgical and Laboratory equipment and supply institution, maintains a fully staffed hospital contract department which is eager to help you with:

Fixed Equipment Specifications and suggested layouts for Cabinets and Casework, Sterilizers, Operating Lights, and other equipment unique to hospitals.

Equipment Check Lists for Hill-Burton projects such as are necessary to fulfill federal requirements.

Specifications for movable hospital equipment such as Operating Room, Laboratory, Patient Room furniture, etc.

Experienced Aloe contract representatives will be pleased to consult with you at no cost or obligation. Write for full information.



a. s. aloe co. and subsidiaries

1831 Olive Street, St. Louis 3, Mo.
Los Angeles, Minneapolis, Kansas City, New Orleans,
Atlanta and Washington, D. C.

STOP

that **WATER**
with FORMULA # **640**

A colorless liquid sealer for masonry, wood, wallboard, canvas, leather, paper. Keeps out water, dirt. Seven resins in a HC solvent.

Penetrates 1" or more.

Proven over 13 years under all conditions.

Low price: \$3 per gal. drum lots.

Low application cost: 1/3 that of paint.

Coverage: 200 sq. ft. per gal. Specify 2 coats above grade; 3 coats below, outside or inside.

Give Your Client the Best for the Lowest Cost

SEE OUR CATALOG 9
IN SWEET'S FILE Ha

Send for test kit, technical data

HAYNES PRODUCTS CO.

4007 FARNAM STREET • OMAHA 3, NEBRASKA

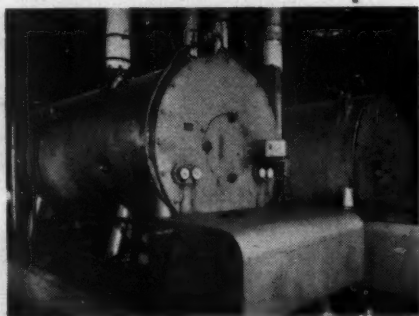
Steam Generators Pay for Selves and Save \$10,000 in First Year

Operating Costs Reduced Sixty-Six % With Lower Fuel Cost & Maintenance

Many railroads have effected huge savings by replacing old inefficient boilers with modern packaged automatic steam generators. Mr. O. T. Carroll, Chief Engineer of Peoria & Pekin Union Railway Co., Peoria, Ill., purchased for his company two modern packaged steam generators; a 75 h.p. for stand-by and a 150 h.p. "on-the-line", and reports his savings as follows:

"The operation of the two York-Shipley Steam-Pak Generators installed in our roundhouse to furnish steam for heating the roundhouse and offices is beyond our expectations as to expense and efficiency.

The savings effected in changing from the operation of the old coal-fired boiler will pay for the cost of installation and the first year's operation."



The total investment for these two new generators, fired with low cost Bunker C heavy fuel oil, was approximately \$35,000. Cost of fuel and maintenance annually was reduced to approximately \$8,000.00 — a 66% reduction, based on the average operating cost of the old plant of \$53,000.00 per year.

Maintenance cost old boiler.....	\$53,000
Cost of new equipment.....	35,000
Operating cost new equipment.....	8,000
Total cost first year.....	\$43,000
First year's savings.....	\$10,000
Estimated 2nd year savings.....	\$45,000

These modern Steam-Pak Generators, manufactured by York-Shipley, Inc., York, Pa., are showing similar savings in hundreds of installations all over the country.

(Advertisement)



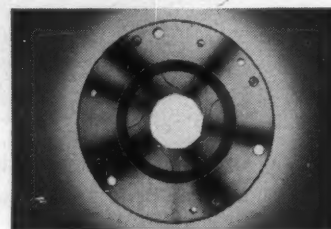
Multiple installation at Monon Railroad, Indianapolis, saves \$1,000.00 per month in fuel and labor.

STEAM-PAK YORK-POWER GENERATOR A PRODUCT OF YORK-SHIPLEY

SAVE MONEY

They're Built For Maximum Efficiencies In Operation . . .

- Engineering design recognized by top engineers and architects.
- Satisfactory operation in thousands of buildings all over the country.
- Tremendous savings proven by hundreds of case histories.
- Distributors chosen for their engineering ability, trained to provide the best engineering "know-how."



IRIS SHUTTER

Patent protected feature provides precision control of burner air, accurately synchronizing air-oil adjustment.



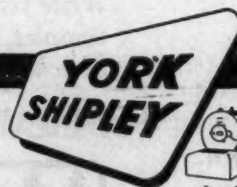
NEW FIRE CONTROL

Swirling flame action speeds gas flow, increasing heat absorption and combustion efficiencies.

These are four basic reasons why Steam-Pak should be No. 1 on your list of steam generators.

See your nearest York-Power Distributor or write York-Shipley for complete details.

Steam-Pak Generators — from 15 h.p. up, for low or high pressure steam or hot water, for light or heavy oil, combination gas and oil or straight gas.



619 JESSOP PLACE • YORK, PENNSYLVANIA • PHONE 7861



HERE'S 5 OUTSTANDING ADVANTAGES



When you
specify
Bilco
TRADE NAME
"Spring Balanced"
Roof Scuttles

1. Easily, quickly installed—to provide trouble-proof access to the roof.
2. Easy to operate—patented reverse action lifting levers. Can't slam shut—door automatically held open until released manually.
3. Built to last a lifetime—rugged construction withstands roughest use.
4. Absolutely weather tight and insulated.
5. Available in three standard sizes in a variety of materials. Also special sizes and types to suit individual requirements.

Makers of the famous
Bilco
CELLADOOR

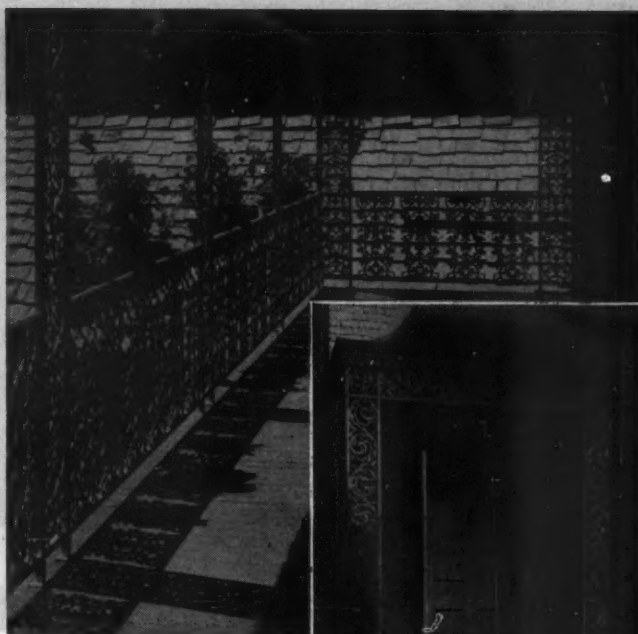
See Sweets for full
information on all
BILCO doors or send
for catalog.

SEE OUR
CATALOG IN
SWEETS

THE BILCO COMPANY

167 HALLOCK AVE., NEW HAVEN, CONN.

Representatives in principal cities



Jerome Robert Cerny, Archt.

To be assured of the widest
choice of artistic designs,
finest materials and supe-
rior workmanship in every
detail—

Paul W. Drake, Archt.

Specify "Metal Work by FISKE"

Visit our show room display of Ornamental Iron Work: Verandas, Balco-
nies, Railings, Entrances — or write for catalog. ESTABLISHED 1858

See our catalogue in Sweets 6e/Fi

J. W. FISKE Iron Works

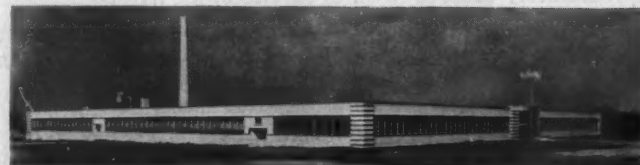
80 Park Place • Dept. 10 • New York 7, N. Y.



You can give industrial buildings



added color and beauty with



ENDURO-ASHLAR

Architectural Terra Cotta

Write for facts. Construction detail, data, color
samples, estimates, advice on preliminary
sketches, will be furnished without charge.

FEDERAL SEABOARD TERRA COTTA



CORPORATION
10 East 40th Street, New York 18, N. Y.
Plants at Perth Amboy and South Amboy, N. J.



The Time's Always Right...with IBM Electronics!*

With an IBM Electronic Time System*, your clocks are always on time, your time records are complete and accurate, your time signals sound as scheduled.

All this without special wiring

Connected only to regular AC lighting circuits, the IBM Electronic Time System provides unequalled performance at a low installation cost. It is today's most modern time system for all types of businesses and institutions.

IBM Time Systems and individually operated time units fill every time indicating, recording, and signaling requirement . . .

save time and money for hundreds of thousands of organizations. Why not see how they can save for you?

*IBM Electric Time System with Electronic Self-regulation

IBM, Dept. AH-1
590 Madison Ave., New York 22, N. Y.

- ☐ Please send descriptive literature on the Electronic Time System.
☐ I'd like to see a demonstration.

Name _____

Company _____

Address _____

City _____ State _____

INTERNATIONAL BUSINESS MACHINES CORPORATION



... from the beautiful, original lacework
of historic OLD NEW ORLEANS

WE PRESENT A COMPLETE PICTORIAL CATALOG OF

ORNAMENTAL CAST IRONWORK

Every known pattern to be found among historic Vieux Carre (New Orleans) buildings and antebellum homes are faithfully reproduced by LORIO master craftsmen...cast in the finest quality iron obtainable.

LORIO IRONWORK installations can be seen on homes, hospitals, university buildings, doctors' clinics and other types of buildings...in the very finest of modern or traditional architectural taste.

WE OFFER A COMPLETE SERVICE IN
PRODUCING CUSTOM-MADE PATTERNS
FROM YOUR OWN DESIGNS . . . OR
SPECIAL CASTINGS OF ANY KIND.

Send for this handsome NEW 48-PAGE CATALOG

Available, for the asking, to architects and builders who are interested in—

- AUTHENTIC HISTORIC PATTERNS
- CREATIVE REPRODUCTIONS OF NEW DESIGNS
- HIGHEST QUALITY OF MATERIALS AND WORKMANSHIP
- EXCELLENCE IN ARCHITECTURAL TASTE

All of the famous New Orleans designs and many new ones are illustrated in this 1950 LORIO Catalog. And beautiful, large, photographic reproductions of various installations throughout the United States are shown.



LORIO IRON WORKS

738-756 South Gayoso Street • New Orleans 19, Louisiana

AIR METER

ANEMOTHERM



MEASURES

AIR VELOCITY
FROM 10FPM to 6,000FPM

AIR TEMPERATURE
FROM 30F to 155F

STATIC PRESSURE
FROM 0 TO 4 NEG. AND
FROM 0 TO 10 POS. IN. WG

This precision instrument gives vital data on the performance and efficiency of heating, ventilating and air conditioning systems. Direct, instantaneous readings.

SEND FOR FREE 4-PAGE FOLDER

Anemostat Corporation of America, Dept. TH-33
10 East 39 Street, New York 16, N. Y.

☐ Please send new 4-page folder on the Anemotherm Air Meter.

☐ I would like to have the Anemotherm demonstrated.

Name

Company

Address

AO 1231



HOW TO SPOT
SUPERIORITY

Look for

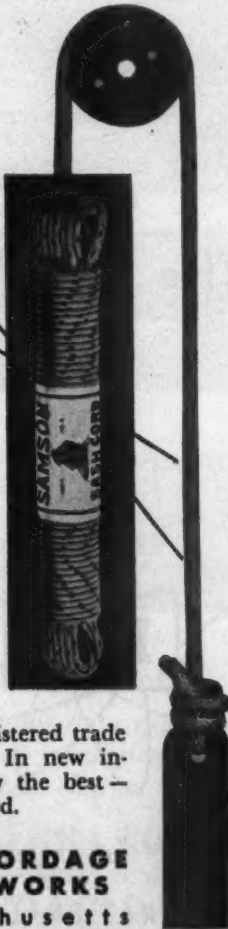
SPOT SASH CORD

- Solid Braided Cotton — Highly resistant to wear
- Minimum Stretch — Assures lasting balance
- Pliable for easy installation and noiseless operation

Look for the colored spots, our registered trade mark, your guarantee of quality. In new installations or replacements, specify the best — strong, long-lasting Spot Sash Cord.

Samson CORDAGE
WORKS

Boston 10, Massachusetts





HERE'S *HOW* AN ARCHITECT BUILT A SCHOOL
AROUND THE HEATING AND VENTILATING SYSTEM
AND SAVED **30%** ON SYSTEM INSTALLATION !

Dravo "COUNTERFLO" Heaters operate automatically, provide constant-temperature fresh air to Hillsborough School.

When the Hillsborough, New Jersey, School was built, architect Jay C. VanNuys specified Dravo "Counterflo" Heaters and built the school *around* the heating and ventilating system, rather than trying to "fit" the system to the school.

Two direct-fired "Counterflo" Heaters, with an output of 1,750,000 Btu per hour each, heat 40,000 cu. ft./min. of fresh filtered air for the 21 rooms of the new school building during the winter months. In warm weather, these same heaters provide comfortable ventilation for the entire school.

The heating and ventilating system is thermostatically controlled and automatic in operation. The unique construction of the school eliminated the need for duct work.

THE RESULTS? The Dravo heater installation at 81¢ per sq. ft. cost 30% less than would a conventional "wet" system; heating and ventilating represented 7% of the total building cost.

Versatile Dravo Heaters can solve many school heating problems.

Dravo "Counterflo" Space Heaters are ideal for heating and ventilating such school facilities as . . . gymnasiums . . . auditoriums . . . stadium rooms . . . libraries . . . cafeterias . . . book

DRAVO HEATERS OFFER YOU—

- Low initial cost . . . users report 50% to 60% savings.
- Concentration of heat at working level.
- Low fuel consumption . . . burn gas or oil . . . easily converted.
- Automatic Control . . . on-off or modulating controls.
- Long service life, low maintenance . . . stainless steel combustion chamber.
- Mobility . . . easily moved to any location.
- Flexibility . . . where floor space is limited, can be wall-hung or suspended from trusses.



Listed by Underwriters' Laboratories
Approved by American Gas Association



stores . . . locker rooms . . . field houses . . . school garages . . . indoor swimming pools . . . manual training shops . . . laundries . . . classrooms.

Planning a school building? Why not look into the possibilities of Dravo "Counterflo" Heaters for your heating and ventilating needs? Write today for Catalog No—524-5768.

DRAVO CORPORATION
HEATING DEPARTMENT, DRAVO BUILDING, PITTSBURGH 22, PA.

Sales Representatives in Principal Cities



Manufactured and sold in Canada
by Marine Industries, Ltd.,
Sorel, Quebec
Export Associates: Lynch, Wilde
& Co., Washington 9, D.C.



**Air Conditioning and
Refrigeration Serve Largest
Super-market in Middle West**

Bettendorf's new store in St. Louis measures 164 ft. by 160 ft., has 200 employees. Two NEW "ECLIPSE" compressors provide air conditioning, while seven other Frick units cool eleven rooms—for meats, bakery products, vegetables, frozen foods, process work, etc.

Installation by L. V. Fleiter Co., St. Louis Distributors who have put Frick cooling equipment in five other super-markets recently.

Let us quote on the air conditioning, ice-making, refrigerating or quick-freezing equipment you need.



Also Builders of Power Farming and Sawmill Machinery

Frick NEW "ECLIPSE" Compressors at
Bettendorf's Super-Market, St. Louis



**BEAUTY
VERSATILITY
STRENGTH**



Sash No. 58—With
Sill Section No. 80

For strength with beauty, durability with modernity—specify Natcor Fully Extruded Aluminized Aluminum Moldings, the increasingly popular Natcor Moldings that have won acceptance all over the world. Send for full or 1/2 size details.

Natcor STORE FRONTS

NOW IN TAUNTON, MASSACHUSETTS

HYDROMENT

FOR BETTER CONCRETE FLOORS

SPECIFY HYDROMENT

For heavy duty floors. For permanent color and lasting beauty. Wherever a hard, dense long-wearing course is needed for durability under severe conditions.

SPECIFY HYDROMENT

For industrial plants, dairies, laundries, garages, service stations, swimming pools.

Hydroment is a dry, cementitious material of compressive strength, exceeding 10,000 p.s.i.

Hydroment is used as a dust coat, floated and troweled into the topping. Millions of square feet installed annually.

See Sweet's 1951 Architectural file 9/Up or write

THE UPSCO CO.

CLEVELAND 3, OHIO

Manufacturers Since 1881

For Architects and School Administrators

"School Planning" Data Book

...a decade of school planning information from the
pages of ARCHITECTURAL RECORD...
now assembled in one volume.

Spurred on by the pressing problem of overcrowded classrooms, in outmoded buildings with inadequate facilities, school architects and school administrators, pooling their efforts, have made some remarkable contributions to the advancement of school design during the past ten years... contributions that unquestionably will strongly influence the schools of tomorrow.

The developments thus evolved have been faithfully recorded in the pages of ARCHITECTURAL RECORD which, serving as a clearing house for contemporary architectural thinking, has regularly studied and analyzed these developments in its School Building Types Studies.

Now this wealth of material has been gathered together and is available in a 456-page volume covering more than 125 individual schools.

Thus "School Planning" offers a series of case-histories of school design... gives a cross-section of the best produced in this country in recent years... and provides exhaustive study and examination of new trends in every important phase.

Wide Diversification of School Types

"School Planning" presents significant examples of grade, intermediate and secondary schools in virtually every State from Maine to California; and discusses both purely technical aspects of design and cultural and academic considerations.

In the case-histories presented, widely differing new techniques are illustrated and explained: multi-purpose rooms and corridors, classroom shapes, structural simplicity and modular design, bilateral and artificial lighting.

Such divergent subjects as the effect of different plan arrangements on structural costs, the trend away from textbook recitation, the relation of stairs to school units, floor area per unit, the "laboratory-type" program of instruction, audio-visual education are analyzed and discussed by experts.

Many Outstanding Contributors

Far from being the work of a single man or even a group of individuals, "School Planning" represents the distilled experience of literally hundreds of architects and school administrators who have specialized in scholastic problems, including such well-known authorities as Ernest J. Kump, Lawrence B. Perkins, Philip Will, John E. Nichols, N. L. Englehardt, Stanton Leggett, Richard Neutra, Alonzo J. Harriman, John Lyon Reid and many others.

For Educators and Architects Alike

This 456-page volume is designed both for architects and school groups alike. It will help school boards, superintendents, principals to know how others have met and are meeting similar problems... provide them with a basic understanding of school architecture so that they may intelligently discuss their problems with architects. It will give architects a quick reference to all important recent advances in school planning and freshen their knowledge of school problems.

What Price Schools?

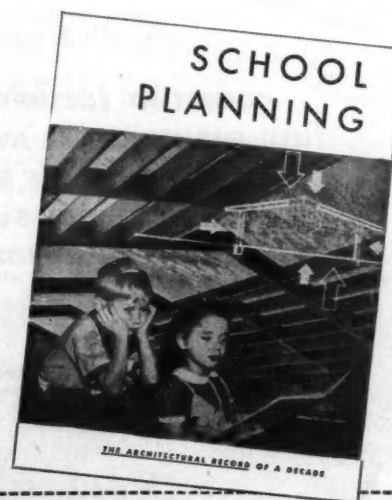
Costs are a dominant consideration in school planning today. In case after case, "School Planning" shows how it is now possible to cut costs of typical schools by design alone, *without skimping on materials, workmanship or facilities*. One section alone, answers such questions as:

- Which is 7% less costly?—One-story school or two-story?
- How do low eaves relate to low cost?
- Must a "finger-plan" school cost more?
- What is the relation between square foot cost and span?
- How can one build a "permanent school on a portable site"?

In still another section, thirty-four specific suggestions for cutting costs without sacrificing quality are listed! And another features a 24-point check list of direct and indirect costs figured on a square foot basis.

Use Coupon Below to Get Your Copy

You can obtain "School Planning"—a large volume of 456 pages, size 8 3/4 x 11 3/4, ruggedly bound, and fully illustrated and indexed—at the reasonable price of only \$8.00. So decide NOW to avail yourself of this invaluable source book of ideas by filling in and mailing the convenient coupon below.



BOOK DEPARTMENT, Architectural Record
119 West 40th Street, New York 18, New York

Enclosed is \$_____ for _____ copy(s) of the 456-page volume on "School Planning" at the price of \$8.00* per copy.

*Add 24 cents for N. Y. City delivery: \$8.24 in all.

Name _____

Address _____

City _____ Zone _____ State _____



Complete

CONTROLS *for*

✓ SINGLE-STAGE
✓ TWO-STAGE
✓ MULTIPLE-STAGE

COOLING
Systems



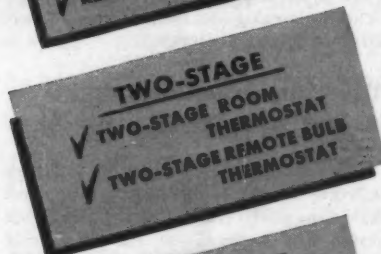
REMOTE BULB
THERMOSTAT



SINGLE-STAGE

✓ ROOM THERMOSTAT
✓ REMOTE BULB THERMOSTAT

SINGLE-STAGE
ROOM
THERMOSTAT



TWO-STAGE

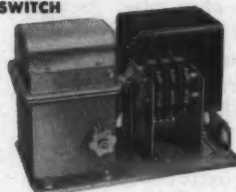
✓ TWO-STAGE ROOM
THERMOSTAT
✓ TWO-STAGE REMOTE BULB
THERMOSTAT

TWO-STAGE
ROOM
THERMOSTAT



MULTIPLE-STAGE
✓ PROGRAM SWITCHES

PROGRAM
SWITCH



COMPETENT FACTORY-TRAINED
FIELD ENGINEERS ARE AVAILABLE FOR
ASSISTANCE IN THE DESIGN OF
COOLING CONTROL SYSTEMS AND
THE SELECTION OF CONTROL COMPONENTS



SELECTION AND PERFORMANCE
DATA ON COOLING CONTROLS
FURNISHED ON REQUEST

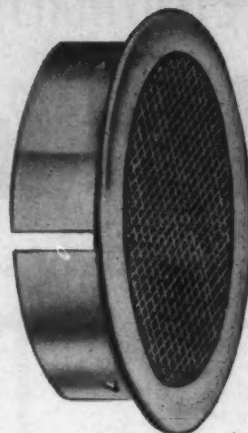


BARBER-COLMAN COMPANY

1232 ROCK STREET, ROCKFORD, ILLINOIS

THE MOST IMPORTANT
ROOM IN THE HOUSE

**ROOM
TO
BREATHE**



**"MIDGET"
LOUVERS**

give your house "room to breathe" by ventilating sidewalls and preventing condensation and moisture blistering. The new "LD" series Midget Louvers are especially designed for inside ventilation, or outside in places where structural characteristics shield the face of the Louver from the elements.

All-aluminum "Midget" Louvers come in 5 convenient sizes 1", 2", 2½", 3 & 4".

MIDGET LOUVER CO.
6-B Wall Street, Norwalk, Conn.

ARCHITECTS...



FAIRBANKS-MORSE

**complete water service section
is now in Sweet's Architectural File!**

Complete information about Fairbanks-Morse water service products—water systems, heaters, softeners, cellar drainers and circulating pumps—is at your finger tips in Sweet's Architectural File—Section ^{28e.}F

Information includes specifications and details of construction and installation which can help you recommend the right unit for the job to be done. If you want copies of this Section for your own personal files, you may obtain them without charge by writing to R. W. Lewis, Fairbanks, Morse & Co., 600 S. Michigan Ave., Chicago 5, Illinois.



FAIRBANKS-MORSE,

a name worth remembering

Primary-school desk to College Library

This sturdy Milton Bradley desk-set has a composite desk-top by PARKWOOD.

Library in Pasadena College; counter and table tops of PARKWOOD Genuwood in matched grain Prima Vera.



Parkwood *Tops Anything*

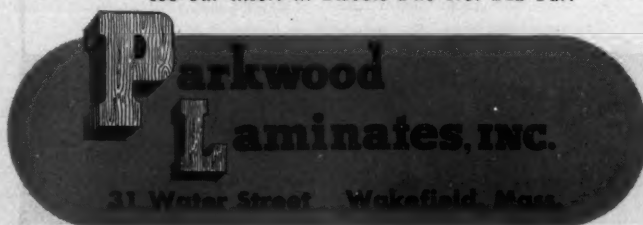
In schools, colleges — in stores, banks, hospitals, hotels and restaurants—wherever handsome effect, long wear and ease of maintenance are important considerations . . . architects, designers and decorators are turning to PARKWOOD.

PARKWOOD DECORATIVE — Rich tints and lovely pastels, in solid color or intriguing 3-dimensional patterns . . . protected by a lamination of 100% Melamine, for maximum resistance to abrasion, alcohol, boiling water, common acids and alkalis; minimum cleaning and maintenance worries.

PARKWOOD GENUWOOD—Genuine precious wood veneers . . . sheer beauty, protected for life by 100% Melamine lamination. Needs no refinishing; is immune to dropped cigarettes and overturned drinks; easily cleaned. Traditional and exotic woods. Cross-grain panels and special inlays to order.

For beauty that is more than skin deep; for duty under all conditions, specify PARKWOOD.

Write for our new Kodachrome Brochure or see our insert in Sweets File No. 14a Par.



Gate City *awning* WINDOWS

Window ABILITY where it counts most!



AvailABILITY

Wood Awning Windows still have the "green light" for 1951. All GATE CITY Dealers are equipped to serve you.

DesignABILITY

Awning Windows offer greater design possibilities for homes, apartment buildings, hotels, schools, hospitals, institutions and defense projects.

PerformABILITY

GATE CITY Awning Window hardware provides smooth, easy operation, for balanced adjustment of sash to any position. The *weatherstripped frame provides positive protection against all kinds of weather, during all seasons, in any climate.

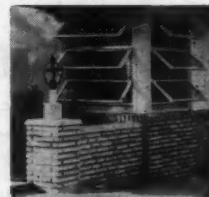
DependABILITY

Trouble-free, rust-proof, worm and gear operator. Complete window -- as a package unit -- is manufactured by wood window craftsmen with 40 years experience.

* Horizontal weatherstripping, thermopane, and storm sash optional at slight extra cost.

PLUS FEATURES

- No-Draft Ventilator
- 100% Ventilation
- Prowler Guard
- Lifetime Durability



MEMBER OF THE PRODUCER'S COUNCIL, INC.

Refer to SWEET'S File

Gate City

SASH & DOOR CO., Dept. AR-6
FORT LAUDERDALE, FLORIDA

Gentlemen: Please send ☐ Architectural Manual, ☐ Literature.

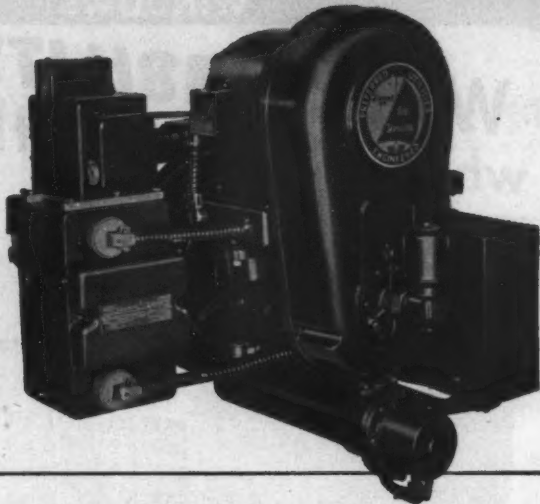
NAME _____

ADDRESS _____

CITY _____ STATE _____

MAIL
COUPON
NOW

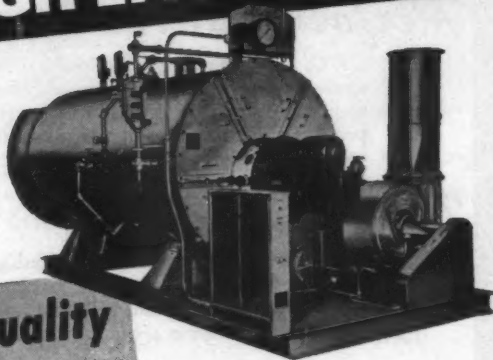
PREFERRED Horizontal Rotary Oil Burner



The Preferred Industrial Burner was especially designed to meet the exacting requirements of the Preferred Unit Steam Generator. Its fully automatic operation with residual fuels proved so successful that it has been widely specified by architects for conversion applications.

Efficient and economical operation are assured by such exclusive and patented features as: Voluvalve for constant flow regulation; high speed 4600 RPM motor; dual, steel-cored V-belt drive; low voltage hot wire ignition; adjustable air guide; and submerged duplex pump in heater reservoir.

Widely Specified for HIGH EFFICIENCY



Top Quality

PREFERRED Unit Steam Generator

The Preferred Unit Steam Generator is a custom-built boiler designed to maintain its guaranteed efficiency for a quarter of a century with a minimum of maintenance. It is the result of 28 years of combustion experience combined with the latest technical advances in pressure vessel design. That is why the Preferred unit offers the greatest economy and longest life of any steam generator. It is an ideal choice for those who prefer the most modern and efficient power and heating facilities. Available for gas, oil or combination firing.

Write for engineering brochure containing detailed data, specifications, scale drawings and operating requirements.



PR-208

**PREFERRED UTILITIES
MANUFACTURING CORPORATION**

1860 BROADWAY, NEW YORK 23, N. Y.

INDEX

TO HELPFUL LITERATURE

The following list is published as a help to readers who want the latest authoritative literature on plumbing drainage products necessary for the protection of both the supply and drainage lines. Simply check "Items Wanted", and mail as indicated below.

- | | |
|--|---|
| 1. Folder on roof, floor, and shower drains | 5. Folder on backwater and sewer valves |
| 2. Folder on LEVEZE adjustable top floor drains | 6. Folder on Moderator Shower Mixing Valves |
| 3. Manual RA—specifications and roughing dimensions on all drainage products | 7. Manual SP-3—a 32-page book on Swimming Pool Construction |
| 4. Manual A—the complete treatise on grease interception | 8. Folder on Shock Absorbers for Water Hammer |

✓ CHECK "ITEMS WANTED"

1 2 3 4 5 6 7 8

AND MAIL TO

JOSAM MANUFACTURING COMPANY

302 JOSAM BUILDING • CLEVELAND 13, OHIO



Design 5162



A CUTLER MAIL CHUTE should be specified for every eligible office building, public building, hotel, apartment and hospital.

Cutler Mail Chute Equipment is also being installed in dormitory, administration and classroom buildings for many schools.

Catalog in Sweet's

ESTABLISHED 1883
Cutler Mail Chute Co.
ROCHESTER 7, N. Y.

Accept this FREE REFERENCE WORK

based on 10 years' research



Awarded the A. I. A. Class 1 Certificate of Merit for service to architects in the selection and specifying of building products, this useful booklet analyzes classroom factors affecting the child's visual and physical comfort. Dr. Darell Boyd Harmon, nationally known authority on environment in relation to the growth and development of school children, treats comprehensively of seating, lighting and decorative problems. Forty-eight pages with many photographs, diagrams. Sent free to architects on request. Write today. Dept. 2.

KEY TO THE CO-ORDINATED CLASSROOM

The New American Universal "Ten-Twenty" Desk

First desk with top easily, silently adjustable to three approved positions: 20° slope, 10° slope, and level. Only desk with fore-and-aft seat adjustment that provides for perfect focal adjustment to all desk-top work. Other features—including 45° seat swivel either way—also promote health and comfort that lead to higher grades.



CONSULT US ON AUDITORIUM SEATING

Our specialized experience can help you find the best answers to your problems. American Bodiform Auditorium Chairs are beautiful, comfortable, durable—in a wide range of styles with or without tablet-arms.

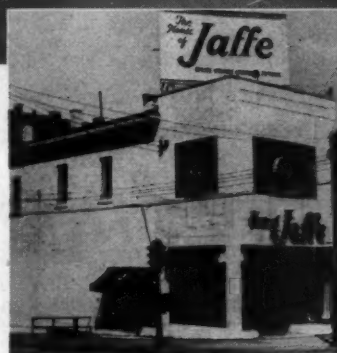


American Seating Company

WORLD'S LEADER IN PUBLIC SEATING

Grand Rapids 2, Mich. Branch Offices and Distributors in Principal Cities
Manufacturers of School, Auditorium, Theatre,
Church, Transportation, Stadium Seating, and Folding Chairs

You design it!



House of Jaffe,
Butler, Pa.

Architect—J. Davis
Wilson

Contractor—Geo.
Schenk Co., Butler, Pa.

Erie supplies complete Porcelain Enamel Service

- ✓ Complete shop details from your design
- ✓ Guaranteed enameling—to PEI weather-proof standards
- ✓ Delivery and erection by Erie's own crews

Your Most Profitable Medium

The ERIE plan relieves you of burdensome detail and responsibility . . . places your porcelain enamel remodeling or new construction job in *specialized* hands from drawing stages to finished building. ERIE assumes complete responsibility . . . guarantees the job in writing. You save time and money, with full assurance your porcelain enamel design will be rendered with utmost effectiveness and accuracy.

Write for information on your specific job.

THE

Erie

ENAMELING COMPANY

ERIE, PENNSYLVANIA

ENGINEERS • MANUFACTURERS • ERECTORS

Architectural Porcelain Enamel

Always specify
HAWS
for Highest Quality



HAWS Electric Water
Coolers easily adapt to re-
mote installations of HAWS
Drinking Fountains...thus
serving several locations.

• A COMPLETE LINE of
coolers, fountains, fau-
cets, equipment, filters
and accessories. • A rep-
utation for reliability since 1909. • Check in
Sweets, or write for complete HAWS catalog.

HAWS DRINKING FAUCET CO.

1441 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA
Agents and Sales Representatives in All Principal Cities

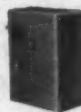
SIZES TO MEET EVERY HEATING NEED

NATIONAL
Complete and Modern
Hot Water and Steam
HEATING SYSTEMS

Cast Iron National Heat
Extractor boilers in sizes
ranging in Net I-B-R
Ratings from 170 to
10,300 sq. ft. of steam
and from 270 to 16,480
sq. ft. of water.



National Steel Boilers
in sizes ranging in SBI
Net Ratings from 275
to 35,000 sq. ft. of steam
and from 440 to 56,000
sq. ft. of water.

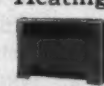


National Gas Boilers
ranging in net ratings
from 105 to 9,690 sq. ft.
of steam and from 195
to 15,505 sq. ft. of water.
A.G.A. approved for use
with all gases.

The distinguished family of
National Heating Products includes
a complete line of modernly de-
signed cast iron and steel boilers
convertible to any fuel and method
of firing to meet all requirements
—from smallest home to largest
commercial building.

Big boiler performance within
compact over-all dimensions; uni-
form water circulation; tankless
water heater for domestic hot water
supply... are among many Na-
tional features that assure efficient,
long-life, economical performance.

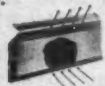
Write for detailed information
on the complete line of National
Heating Products.



National
Art & Aero
Convectors



National
Art
Radiators



National
Art
Baseboard



National
Unit
Heaters



THE NATIONAL RADIATOR COMPANY
JOHNSTOWN, PENNSYLVANIA

free your
draftsmen
from tedious
lettering
jobs...



Var-i-Type Lettering
↓
BILLS OF MATERIAL, SPECIFICATIONS,
NOTES ETC... ALL EXPERTLY LETTERED
BY YOUR TYPIST.....
ON A VARI-TYPER LETTERING MACHINE.

THE VARI-TYPER LETTERING MACHINE OFFERS THE FAST-
EST METHOD OF LETTERING BILLS OF MATERIAL, NOTES,
SPECIFICATIONS ON TRACINGS AND DRAWINGS, AND COUNT-
LESS OTHER LETTERING DETAILS NOW BOTTLE-NECKING THE
DRAFTING ROOM OUTPUT. THE VARI-TYPER LETTERING MA-
CHINE IS FOUR TO FIVE TIMES FASTER THAN HAND LETTER-
ING AND IS OPERATED BY AN OFFICE TYPIST.

SAVE YOUR DRAFTSMEN'S TIME FOR MORE
IMPORTANT CREATIVE DRAFTING WORK.

TYPE FACES ARE INSTANTLY AND EASILY INTER-
CHANGEABLE OFFERING HUNDREDS OF DIFFERENT
SIZES AND STYLES FROM WHICH TO CHOOSE.

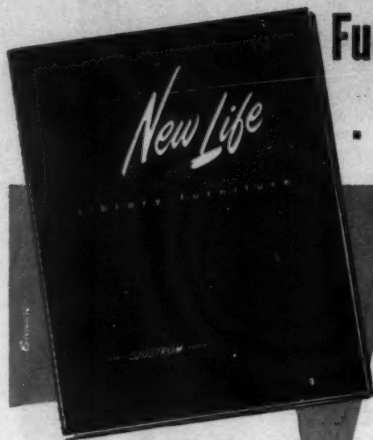
Letters any size tracing — even 6 feet or more.

RALPH C. COXHEAD CORP.
720 Frelinghuysen Avenue, Newark 5, N. J.

Please send me Vari-typer Booklet # A7

Name
Company.....
Address
City..... Zone..... State.....

... Thousands of Librarians, Architects, Educators have received copies of our **New Life Library Furniture Catalog** ... Have you?



"Exquisite library furniture... beautifully illustrated catalog... all institutions' libraries will want a copy of this well organized catalog containing a host of new ideas in proper library furnishings."

—INSTITUTIONS MAGAZINE

"The spiral bound catalog presents photographs, drawings, dimensions, and applications of complete library furniture for use in schools, colleges, public and private libraries. It is carefully indexed for ready use by librarians, architects, and educators."

—ARCHITECTURAL FORUM

"The new Catalog L-50 presenting 'New Life' Library Furniture is a most attractively laid out and printed 32 Page publication..."

—COLLEGE and UNIVERSITY BUSINESS



John E. Sjöström Company's *New Life* Library Furniture style has won acclaim from coast to coast. Designed in sectional and functional form, it fulfills all of the requirements demanded by the modern library while providing for future expansion.

New Catalog L-50 contains full details and specifications on *New Life* Library Furniture. Its 32 pages are packed with easy-to-use information of value to anyone planning a new library or renovating existing facilities. For a copy of Catalog L-50, write to us at the address below.

JOHN E. **SJÖSTRÖM** COMPANY
1717 N. Tenth Street • Philadelphia 22, Pa.
ESTABLISHED 1893

Specify shellac



INTERIOR DESIGNED BY MELANIE KAHANE

Gives a satin-smooth natural finish to

- Won't scratch or mar
- Will not darken with age
- Outwears other finishes

**FLOORS
PANELING
ALL
WOODWORK**

As you set the stage for graceful living with natural wood, bring out the beauty of the grain with shellac...the most durable, finest beauty treatment for all wood surfaces.

shellac is easy to apply, easy to maintain, dries fast, simple to retouch and keep beautiful.

Nationally Advertised

SHELLAC Information Bureau

of the American Bleached Shellac Manufacturers Assn. Inc.
65 Pine Street, New York 5, N. Y. D6

Please send, without obligation, "Standard Specifications on the Use and Application of Shellac".

Firm Name.....
Address.....
City.....Zone.....State.....
Signed.....

MAIL TODAY

What's between YOU
... and your car?



Are you (and the homes you build) happy about your garage doors? Are you "that way" about them?

Are they four-sectional? All steel? Overhead? Do they cost less to buy — to install? Will they last a house-time?

Is there minimum field assembly? Is everything that can be predetermined fixed to the door at the factory? Is every door individually packaged in a single carton — complete with all necessary parts?

Is it factory prime coated and infra-red baked? Is its operation finger-tip—"touch and go"? Is it quiet, safe, weatherproof?

IS IT? IT IS! Then it's the sensational New MORRISON Roly-Door.

WRITE FOR YOUR
FREE GUIDE!

A note on your stationery will bring you your free guide to the selection of residential garage doors — and the phone number of your nearest Roly-Door distributor.



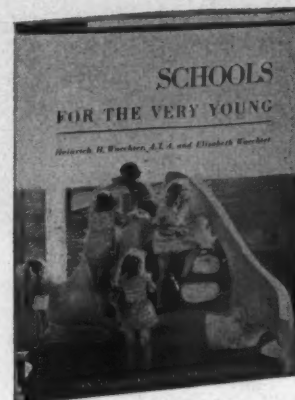
Roly-Door
DIVISION

MORRISON STEEL PRODUCTS, INC.
647 AMHERST STREET • BUFFALO 7, NEW YORK

Schools for the Very Young

by HEINRICH H. WAECHTER, A.I.A.

and ELISABETH WAECHTER



THOUGH many volumes have been written about school design, "Schools for the Very Young," a brand new book just off the press, is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

Beginning with a brief yet adequate historical and philosophical background, in which the development of the theory and practice of child education is discussed, the book goes on to describe the pre-school in action, noting the events of the school day and the corresponding environmental needs of the children and their teachers. Examples of existing pre-schools are presented with critical comment. Detailed information is given concerning the space apportionments and arrangements called for by the activities peculiar to such institutions. Since one of the authors is especially concerned with city planning, the relation of the pre-school to its neighborhood and community is analyzed, and the many different types of pre-schools that have developed to meet special conditions are enumerated and explained.

The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

You can be among the first to have a copy of this new book by placing your order now. 208 pages, 7 $\frac{3}{8}$ x 10, stiff binding. Price \$6.50.

Book Department, *Architectural Record*
119 West 40th Street, New York 18, N. Y.

Enclosed is \$..... for copy(s) of "Schools for the Very Young" by Heinrich H. and Elisabeth Waechter at \$6.50 per copy. (Add 20¢ for N.Y.C. delivery — \$6.70.)

Name.....

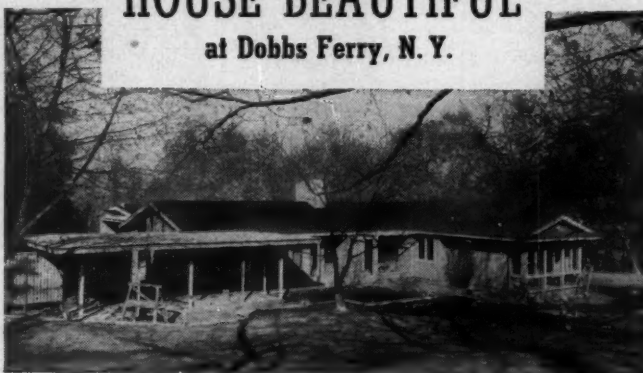
Address.....

City..... Zone..... State.....



The 1951 PACE SETTER HOUSE

built by
"HOUSE BEAUTIFUL"
at Dobbs Ferry, N. Y.



Has Set the Pace with

CUPRINOL®

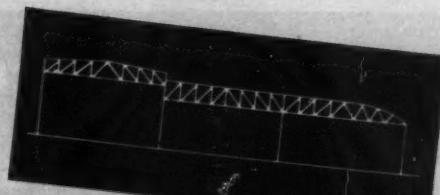
Here is a home built for service as well as for convenience—a home in which all materials have been selected from the country's best with infinite care. And... Cuprinol was specified and used for on-the-job treatment of all plates, posts, joists and studs from below to several feet above ground to prevent rot, termites and decay.

And because Cuprinol is water repellent it minimizes the swelling and shrinking of doors, windows and fitted mill work, and on plywood provides a lasting smoother finish under paint, varnish or stain. Contractors use it gladly—it is non-toxic to handle and easily applied on the job.

See Sweet's Architectural File 5d/CU or write for information on types of Cuprinol for specific uses.

CUPRINOL Division, Darworth Incorporated
3 Maple Street Simsbury, Conn.

Pacific coast plant of Grinnell Company, manufacturers of automatic fire sprinkler systems. Area 1½ acres; trusses of 60-foot span combine features of parallel chord and bowstring types.



Skeleton of a Production Tool

TRUSSES of engineered timber provide the unobstructed floor space which will make this building a primary production tool...promoting continuous flow of mass production, efficient materials handling, flexibility for expansion and changes of tenants, processes and machinery.

Wide Range of Adaptations. Trusses in this building are typical of the adaptability of Timber Structures units. Other types provide saw tooth, flat or arched roof contours, or any desired combination of these forms. Spans may be up to 250 feet or more, and number of spans is limited only by site conditions. Local loadings such as mezzanines, balconies, monorail installations and heating and cooling units are readily accommodated in design.

Resistive to Destruction by Fire. Truss chords shown here are formed by glued lamination into single piece members, permanently free from seasoning action, and qualifying as heavy timber or mill type construction. They are naturally resistive to failure by fire and earn moderate insurance rates.

For additional information about these structural units, get a copy of the booklet, "Industrial Buildings" from your nearest Timber Structures representative, or fill in and mail the coupon.

TIMBER STRUCTURES, INC.

P. O. Box 3782-A, Portland 8, Oregon

Offices in New York; Chicago; Kansas City, Missouri; Dallas, Texas; Seattle and Spokane, Washington

TIMBER STRUCTURES OF CALIFORNIA • Oakland, California

TIMBER STRUCTURES OF CANADA, LTD. • Peterborough, Ontario

Local Representatives throughout the United States and Canada



TIMBER STRUCTURES, INC.

P. O. Box 3782-A, Portland 8, Oregon

Please send booklet, "Industrial Buildings" to

Name _____

Company _____

Address _____

City _____

Zone _____

State _____

Want to cut on-the-job costs? Choose Pittsburgh Doorways!

In remodeling this furniture store, Architect Charles Kendall of High Point, N. C., included a Pittsburgh Free-Standing Doorway.



● Because they are factory-assembled to precision standards—reach the site in one “package”—Pittsburgh Doorways cut labor costs substantially. They eliminate time- and labor-consuming details of fitting, locating and calculating in the field. In fact, all that's necessary is to unpack the frame, bolt it into the building opening and hang the sturdy Herculite Doors, for whose strength the frames have been especially engineered.

That is why we suggest that, when you are considering doorways, you give serious thought to two important factors: *quality fabrication and total-installed cost . . . not just the list price.* And when you do, you'll select Pittsburgh Doorways every time!

We'd like to send you complete information on Pittsburgh Doorways. So, why not write today to Pittsburgh Plate Glass Company, 2168-1 Grant Building, Pittsburgh 19, Pennsylvania?

This cut-away view of the Free-Standing Pittsburgh Doorway shows the 6"—10.5 lb. steel channel which is continuous through the massive, extruded aluminum frame. Perfectly mitered corners enhance the rugged beauty of the frame. The Pittco Premier 72-A store front sash illustrated is one of the many members that can be attached to the substantial frame casing.

Pittsburgh DOORWAYS



PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

ARCHITECTURAL RECORD

Published by F. W. Dodge Corporation

119 West 40th Street, New York 18

Copyright 1951. All rights reserved

SEMI-ANNUAL INDEX • VOLUME 109 • JANUARY-JUNE 1951

BTS—Building Types Study • AE—Architectural Engineering section • TSS—Time-Saver Standards

A

Abbott, Merkt & Co., archts. and engrs. Shopping Center for the Hecht Co., Va. Kahn and Jacobs, consult. archts. — BTS — Mar., pp. 137-138.

Ackerman & Ramsey, assoc. archts. See Sleeper, Harold R., archt.

Air Force Housing. See Edwards Air Force Base, Muroc, Calif. — BTS — May, pp. 123-125.

AIRPORT DESIGN. Building Types Study No. 170 — Jan., pp. 112-133.

"Airport Design: Its Architectural Aspects." Article by Walther Prokosch — BTS — Jan., pp. 112-117.

Airports. Logan International Airport, East Boston, Mass. — BTS — Jan., pp. 118-125; Stapleton Field, Denver, Colo. — BTS — Jan., pp. 126-130; Yuma County Airport, Yuma County, Ariz. — BTS — Jan., pp. 130-133.

Anderson & Beckwith, archts., and Harkness & Geddes, archts. Gymnasium Building for the Priory School, Portsmouth, R. I. — May, pp. 136-139.

Anderson, Robert J., M.D., and James E. Perkins, M.D. Article: "The Need for Hospital Facilities" — BTS — Apr., pp. 135-136.

Anshen & Allen, archts. Mr. and Mrs. Willard C. Mills House, near Danville, Calif. — Feb., pp. 112-115.

"Apartment Buildings, Partitions Function as Columns in Scheme for." Article by Paul Weidlinger. Olgyay and Olgyay, archts. — AE — Jan., pp. 134-139.

Apartments. Bel Air Garden Apartments, West Los Angeles, Calif. — Apr., pp. 118-122; Brentwood Garden Apartments, Los Angeles, Calif. — Jun., pp. 178-183; Hillside Apartments, Berkeley, Calif. — Jan., pp. 95-99.

Architectural Files, Classification System for. — AE — TSS — Mar., pp. 155, 157.

"Architectural Life, The." Article by William W. Wurster — Jan., pp. 91-94.

"Architects, Engineers and Selective Service." Editorial by Harold D. Hauf — Feb., p. 11.

Architects' Offices. Offices of James A. Britton, Greenfield, Mass. — Mar., pp. 112-115; Offices of Jessen Jessen Millhouse & Greeven, Austin, Tex. — Mar., pp. 116-119.

"Architecture and Society." Article by Pietro Belluschi — Feb., pp. 116-118.

Army Corps of Engineers. See "Construction Officials, Directory of Government."

Ashley, Edward A., engr. See Teague, Walter Dorwin, dsnr.

Atkinson, Fello. Rev. of *Norwegian Architecture*, by Alnaes, Eliassen, Lund, Pedersen, Platou — May, pp. 32, 35, 36.

Atomic Energy Commission. See "Construction Officials, Directory of Government."

"Atomic Lab, Construction Problems of an." Article. Brookhaven National Laboratory, Upton, N. Y. H. K. Ferguson Co., dsns. — AE — May, p. 162.

B

Banks. See People's Savings Bank, Providence, R. I.; Central Branch, Continental Bank & Trust Co., Salt Lake City, Utah; Broadway Savings Bank, New York City — Apr., pp. 123-129.

Barrington Consolidated High School, Barrington, Ill. Perkins & Will, archts.-engrs. — BTS — Jun., pp. 146-150.

Baumann and Baumann, archts. East Tennessee Tuberculosis Hospital, Knoxville, Tenn. Will W. Griffin, assoc. — BTS — Apr., pp. 154-157.

Becket, Welton, & Associates, archts. Stonestown Shopping Center, San Francisco — BTS — Mar., pp. 132-136.

Bel Air Garden Apartments, West Los Angeles, Calif. A. Quincy Jones, Jr., archt. — Apr., pp. 118-122.

Belluschi, Pietro. Article: "Architecture and Society" — Feb., pp. 116-118.

Benedict, A. H., engr. See Fleishman, Maurice, archt.

Biggs, Weir & Chandler, archts. and consult. engrs. See Naef, R. W., archts.-engrs.

Bogner, Walter F., and Carleton R. Richmond, Jr., archts. Elementary school, Kingston, Mass. — BTS — Jun., pp. 122-127.

"Bomb Defense for Industry's Production." Article — BTS — Feb., pp. 128-131.

Bottling Company, Houston Coca-Cola. Houston, Tex. Stone & Pitts, archts. and engrs. — BTS — Feb., pp. 120-127.

Bowman, Mr. and Mrs. Clarence, House, San Rafael, Calif. Francis Joseph McCarthy, archt. Thomas D. Church, lands. archt. — Feb., pp. 108-111.

Brentwood Garden Apartments, Los Angeles, Calif. Chalfant Head, archt. — Jun., pp. 178-183.

Brewer, Me., Elementary School (proposed), Alonzo J. Harriman, Inc., archts.-engrs. — BTS — Jun., pp. 118-119.

Britton, James A., archt. Hampshire Heights housing project, Northampton, Mass. Jo Ray, site plnr. — BTS — May, pp. 116-119; Own office building, Greenfield, Mass. — Mar., pp. 112-115.

Broadway Savings Bank, New York City. Harold R. Sleeper, archt. Ackerman & Ramsey, assoc. — Apr., pp. 123-129.

Brookhaven National Laboratory, Upton, N. Y. In article: "Construction Problems of an Atomic Lab." H. K. Ferguson Co., dsns. — AE — May, p. 162.

"Building Code Commission, N. Y. State: Aims and Accomplishments." Article by William Lescage — AE — Jun., pp. 184-187.

"Building Code Progress, Background to." Article by Leonard G. Haeger and Joseph H. Reed — Jan., pp. 140-141.

Byrne, Barry, archt. Church of Saint Columba, St. Paul, Minn. — Feb., pp. 87-91; Church of St. Francis Xavier, Kansas City, Mo. Joseph B. Shaughnessy, assoc. archt. — Feb., pp. 92-95.

C

CAA Regional and District Offices. See "Construction Officials, Directory of Gov't." Caledonian Record Pub. Co., Inc., St. Johnsbury, Vt. Whittier & Goodrich, archts. — Jun., pp. 172-174.

Campbell and Wong. See Wong, Worley K., archt., and John Carden Campbell.

Cancer Hospital. See Veterans' Administration Research Hospital, Chicago, Ill. — Jun., pp. 151-157.

Caproni, Leo F., & Associates, archts. and engr. Strip Mill and Distribution Center for Detroit Steel Corp., Hamden, Conn. — BTS — Feb., pp. 126-135.

Carson & Lundin, assoc. archts. See Douglass, Lathrop, archt.

Central Branch, Continental Bank & Trust Co., Salt Lake City, Ut. Snedaker & MacDonald, archts. — Apr., pp. 123-129.

Chemical Engineering Building, University of Minnesota. Magney, Tusler & Setter, archts. and engr. Roy Childs Jones, advis. archt. — May, pp. 126-131.

Chemical Plants. See Textile Dye and Ink Plant.

Church, Neighborhood. Religious Educational Building, Pasadena, Calif. Smith and Williams, archts. — Feb., pp. 102-105.

Church of Saint Columba, St. Paul, Minn. Barry Byrne, archt. — Feb., pp. 87-91.

Church of St. Francis Xavier, Kansas City, Mo. Barry Byrne, archt. Joseph B. Shaughnessy, assoc. archt. — Feb., pp. 92-95.

Church, Thomas D., lands. archt. See McCarthy, Francis Joseph, archt.

City-County Building, Detroit Civic Center, Detroit, Mich. Harley, Ellington & Day, archts. and engr. — Jan., p. 107.

Civic Center. Detroit Civic Center — Jan., pp. 100-107.

Classification System for Architectural Files: 1, 2 — AE — TSS — Mar., pp. 155, 157.

Coca-Cola Bottling Co. See Bottling Co., Houston Coca-Cola.

Concrete. See article: "Steel Saved in Lightweight Building," by J. A. Murlin — AE — Jun., pp. 188-190.

"Construction and Planning of Tuberculosis Hospitals." Article by John W. Cronin, M.D. — BTS — Apr., p. 136.

Construction Officials, Directory of Government. Army Corps of Engineers, Navy District Public Works Officers, CAA Regional and District Offices, Atomic Energy Commission — Mar., pp. 16a-16d.

Continental Bank & Trust Co. See Central Branch, Continental Bank & Trust Co.

Coolidge, Shepley, Bulfinch and Abbott and Thompson & Lichtner Co., assoc. archts. and engr. Logan International Airport, East Boston, Mass. — BTS — Jan., pp. 118-125.

Cooling. See "Panel Cooling Planned for Two Buildings" — AE — Tech. News — Mar., p. 146.

Corbelletti, Raneiro. See Merz, Joseph A.

Cram & Ferguson, archts.-engrs. People's Savings Bank, Providence, R. I. — Apr., pp. 123-129.

Cronin, John W., M.D. Article: "Construction and Planning of Tuberculosis Hospitals" — BTS — Apr., p. 136.

Crowe, Ralph, archt. General Science and Housecraft Unit, Queen's College, Bridgetown, Barbados, B. W. I. — Feb., pp. 106-107.

D

Defense and Industry. See "Bomb Defense for Industry's Production" — BTS — Feb., pp. 128-131.

de Folo, Keith. Review of *Parliament House*, by Maurice Hastings — Jun., pp. 290, 292.

Denver Airport. See Stapleton Airfield, Denver, Colo. — BTS — Jan., pp. 126-130.

Detroit Civic Center. City-County Bldg. Harley, Ellington & Day, archts. — Jan., p. 107; Veterans' Memorial Bldg. Harley, Ellington & Day, archts. — Jan., pp. 102-106.

Detroit Civic Center Begins to Grow. Detroit City Plan Commission. Saarinen, Saarinen & Assocs., consults. — Jan., pp. 100-107.

Detroit Steel Corp. See Strip Mill and Distribution Center, Hamden, Conn. — BTS — Feb., pp. 132-135.

Dietz, Albert. Article: "Potentialities of Glass in Building" — AE — Apr., pp. 161-166, 226, 228, 232.

Ditchy, Clair W., archt. Alice Crocker Lloyd Residence Hall, University of Michigan, Ann Arbor, Mich. Lynn W. Fry, superv. archt. — Apr., pp. 112-117.

Dormitory. Alice Crocker Lloyd Residence Hall (see Ditchy, Clair W., above).

Douglass, Lathrop, archt. Esso Office Building, Baton Rouge, La. Carson & Lundin, assoc. archts. — Jan., pp. 85-90.

"Downlighting, Characteristics of." Article by Stanley McCandless — AE — Feb., pp. 142-145, 160.

Drainage. See "Preparing the Land for Building: Drainage. Part I: Surface Drainage." Article by J. L. Staunton — AE — May, pp. 156-161.

"Drive-Thru" Buildings. See Bottling Co., Houston Coca-Cola — BTS — Feb., pp. 120-127.

E

East Boston Airport. See Logan International Airport — BTS — Jan., pp. 118-125.

East Tennessee Tuberculosis Hospital, Knoxville, Tenn. Baumann and Baumann, archts. Will W. Griffin, assoc. — BTS — Apr., pp. 154-157.

Eckbo-Royston-Williams, lands. archts. See Harrison, Henry Robert, archt. See also, Wong, Worley K., archt.

"Economics + Philosophy + Available Materials and Equipment + Design = Modern Schools." Article — BTS — Jun., pp. 118-121.

Editorial. "Architects, Engineers and Selective Service," by Harold D. Hauf — Feb., p. 11.

Edwards Air Force Base, Muroc, Calif. Hal B. Hayes & Assoc., dsns. Maurice Fleishman, archt. A. H. Benedict, engr. — BTS — May, pp. 123-125.

Elementary Schools. See Schools.

Engelberg, Dr. and Mrs. H., House, Los Angeles, Calif. Henry Robert Harrison, archt. Eckbo-Royston-Williams, lands. archts. — May, pp. 144-148.

Engelhardt, N. L., Sr. Review of *The New School*, by Albert Roth — Jun., pp. 30, 32.

Esso Office Building, Baton Rouge, La. Esso Standard Oil Co. of Louisiana. Lathrop Douglass, archt. Carson & Lundin, assoc. archts. — Jan., pp. 85-90.

F

"Factory and the Town, The." Article by Carl Feiss — BTS — May, pp. 111-115.

Fagen, Mr. and Mrs. Abel E., House, Lake Forest, Ill. George Fred Keck — William Keck, archts. — Mar., pp. 105-110.

Ferguson Co., The H. K., dsns. Brookhaven National Laboratory, Upton, N. Y. In article: "Construction Problems of an Atomic Lab" — AE — May, p. 162; Textile Dye and Ink Plant for the Interchemical Corp., Hawthorne, N. J. — BTS — Feb., pp. 136-139.

Festival of Britain. South Bank Exhibition, London — Jun., pp. 158-161.

Files, Classification System for Architectural — AE — TSS — Mar., pp. 155, 157.

Finishing Plant. See Strip Mill and Distribution Center, Hamden, Conn. — BTS — Feb., pp. 132-135.

Five-Level House. See Michaels House, Belmont, Mass. — Jan., pp. 108-111.

Fleishman, Maurice, archt. Edwards Air Force Base, Muroc, Calif. Hal B. Hayes & Assoc., dsns. A. H. Benedict, engr. — BTS — May, pp. 123-125.

Fry, Lynn W., superv. archt. See Ditchy, Clair W., archt.

G

Garden Apartments. Bel Air Garden Apartments, West Los Angeles — Apr., pp. 118-122.

Gas Appliances, Installation of. 1, 2, 3: Venting — AE — TSS — Apr., pp. 175, 177, 179.

General Science and Housecraft Unit, Queen's College, Bridgetown, Barbados, B. W. I. Ralph Crowe, archt. — Feb., pp. 106-107.

Gesell, Arnold, M.D. Review of *SCHOOLS FOR THE VERY YOUNG*, by Heinrich and Elisabeth Waechter — Apr., p. 30.

"Glass in Building, Potentialities of." Article by Albert Dietz — AE — Apr., pp. 161-166, 226, 228, 232.

Golden Strand Hotel, Miami Beach, Fla. Igor B. Polevitzky, archt. Frederick B. Stressau, lands. archt. — May, pp. 132-135.

Griffin, Will W., assoc. archt. See Baumann and Baumann, archts.

Gymnasium building. Priory School, Portsmouth, R. I. Anderson & Beckwith and Harkness & Geddes, assoc. archts. — May pp. 136-139.

H

Haeger, Leonard G. Article, with Joseph H. Reed: "Background to Building Code Progress" — AE — Jan., pp. 140-141.

Hampshire Heights, Northampton, Mass. Housing project. James A. Britton, archt. Jo Ray, site plnr. — BTS — May, pp. 116-119.

Hardware. Series of articles by Seymour Howard — AE — TSS. Hardware: 19, 20, 21: Lock Functions — Jan., pp. 143, 157, 159; 22: Lock Functions — Mar., p. 159; 23: Lock Dimensions — Mar., p. 161; 24, 25, 26: Sliding Doors — Jun., pp. 199, 201, 203.

Harkness & Geddes, archts., and Anderson & Beckwith, archts. Gymnasium building for the Priory School, Portsmouth, R. I. — May, pp. 136-139.

Harley, Ellington & Day, archts. and engr. Detroit Civic Center City-County Bldg. — Jan., 107; Detroit Civic Center Veterans' Memorial Bldg. — Jan., pp. 102-106.

Harper, Robert J., and Carl R. Conrad, assocs. See Teague, Walter Dorwin, dsnr.

Harriman, Alonzo J., Inc., archts.-engrs. Elementary School, Brewer, Me. (proposed) — BTS — Jun., pp. 118-119.

Harrison, Henry Robert, archt. Dr. and Mrs. H. Engelberg House, Los Angeles, Calif. Eckbo-Royston-Williams, lands. archts. — May, pp. 144-148.

Hauf, Harold D. Editorial: "Architects, Engineers and Selective Service" — Feb., p. 11.

Haver, Ralph, archt. Sunnyside School, Maricopa County, Ariz. — BTS — Jun., pp. 119-121.

Hayes, Hal B. & Assocs., dsns. Edwards Air Force Base, Muroc, Calif. Maurice Fleishman, archt. A. H. Benedict, engr. — BTS — May, pp. 123-125.

Head, Chalfant, archt. Brentwood Garden Apartments, Los Angeles, Calif. — Jun., pp. 178-183.

"Heating System Lowers School Cost." Article. Hillsborough School, Hillsborough Township, N. J. — AE — Jun., pp. 191-194.

Hecht Co., Shopping Center for The Va. Abbott, Merkt & Co., archts. and engr. Kahn and Jacobs, consult. archts. — BTS — Mar., pp. 137-138.

Highway Crews, Camp for. See Mill Creek Summit Maintenance Yard.

Hillsborough School, Hillsborough Township, N. J. Jay C. Van Nuys, archt. In article, "Heating System Lowers School Costs" — AE — Jun., pp. 191-194.

Hillside Apartments, Berkeley, Calif. Campbell and Wong, archts. — Jan., pp. 95-99.

Holabird & Root and Burgee, archts. Statler Center, Los Angeles. William B. Tabler, assoc. archt. — Mar., pp. 89-104. See also "Statler Center, Engineering Aspects of" — AE — Mar., pp. 147-150.

"Hospital Facilities, The Need for." Article by Robert J. Anderson, M.D. and James E. Perkins, M.D. — BTS — Apr., pp. 135-136.

Hospitals. See Tuberculosis Hospitals. See also Veterans' Administration Research Hospital, Chicago, Ill. — Jun., pp. 151-157.

Housecraft Unit. See Queen's College.

Houses. Bowman House, San Rafael, Calif. — Feb., pp. 108-111; Engelberg House, Los Angeles, Calif. — May, pp. 144-148; Fagen House, Lake Forest, Ill. — Mar., pp. 105-110; Lilienthal House, San Francisco, Calif. — Jun., pp. 168-171; Michaels House, Belmont, Mass. — Jan., pp. 108-111; Mills House, near Danville, Calif. — Feb., pp. 112-115; Palley House, Croton-on-Hudson, N. Y. — May, pp. 140-143; Roberts House, Blue Ridge, Wash. — April, pp. 130-134; Vacation House, Quogue, N. Y. — Jun., pp. 162-167.

Houses, Frame. See article: "Modular Coordination in Frame Houses," by James T. Lendrum — AE — May, pp. 153-155. See also Modular Coordination — 9, 10, 11: Frame Houses — AE — TSS — May, pp. 177, 179, 181.

Housing. MOBILIZATION HOUSING. Building Types Study No. 174 — May, pp. 93-125.

Housing. "Mobilization Housing." Introduction to BTS — May, p. 93.

Housing. See Park Forest, Ill. — BTS — May, pp. 94-110.

Housing, Low-Rent. Hampshire Heights, Northampton, Mass. — BTS — May, pp. 116-119; Middleborough Housing Project, Middleborough, Mass. — BTS — May, pp. 120-122.

Hotels. Golden Strand Hotel, Miami Beach, Fla. — May, pp. 132-135; Statler Center, Los Angeles, Calif. — Mar., pp. 89-104.

Howard, Seymour. Series of articles on Hardware — AE — TSS — 19, 20, 21: Lock Functions — Jan., pp. 143, 157, 159; 22: Lock Functions — Mar., p. 161; 24, 25, 26: Sliding Doors — Jun., pp. 199, 201, 203.

I

INDUSTRIAL BUILDINGS. Building Types Study No. 171 — Feb., pp. 119-141.

Industrial Buildings. Detroit Steel Corp. Strip Mill and Distribution Center, Hamden, Conn. — BTS — Feb., pp. 132-135; Houston Coca-Cola Bottling Co., Houston, Tex. — BTS — Feb., pp. 120-127; Remodeled Shop Bldg. for the Sun Steel Co., Chicago, Ill. — BTS — Feb., pp. 140-141; Textile Dye and Ink Plant, Interchemical Corp., Hawthorne, N. J. — BTS — Feb., pp. 136-139.

Infirmity, Tuberculosis. See Mississippi State Sanatorium, Sanatorium, Miss. — BTS — Apr., pp. 142-145.

Interchemical Corp. See Textile Dye and Ink Plant, Hawthorne, N. J. — BTS — Feb., pp. 136-139.

J

Jensen, Peter N., archt. Article: "Notes on Tuberculosis Hospital Planning" — BTS — Apr., pp. 137-138.

Jessen Jessen Millhouse & Greeven, archts. Own office bldg., Austin, Tex. — Mar., pp. 116-119.

Jones, A. Quincy, Jr., archt. Bel Air Garden Apartments, West Los Angeles, Calif. — Apr., pp. 118-122.

Jones, John Paul, archt. See Stoddard, George W. & Associates, archts.

Jones, Roy Childs, advs. archt. See Magney, Tusler & Setter, archts. and engr.

Junior High School. Wilton Junior High School, Wilton, Conn. — Apr., pp. 101-111.

K

Kahn and Jacobs, consult. archts. See Abbott, Merkt & Co., archts. and engr.

Keck, George Fred — William Keck, archts. Mr. and Mrs. Abel Fagen House, Lake Forest, Ill. — Mar., pp. 105-110.

Kennedy & Smith, archts. Middleborough Housing Project, Middleborough, Mass. Dan Kiley, lands. archt. Gordon MacNeil, engr. — BTS — May, pp. 120-122.

Kiley, Dan, lands. archt. See Kennedy & Smith, archts.

Kilham, W. H., Jr., archt. See O'Connor, R. B., archt.

Kincaid & Hutchinson, city plnrs. and archts. See Loeb, Schlossman & Bennett, archts. and plnrs.

Kingston, Mass., Elementary School. Walter F. Bogner and Carleton R. Richmond, Jr., archts. — BTS — Jun., pp. 122-127.

Koch, Carl, Associates, archts. Dr. and Mrs. Joseph J. Michaels five-level house, Belmont, Mass. Leon Lipshutz, assoc. archt. — Jan., pp. 108-111.

Koch, Richard, archt. Lafayette Charity Hospital T.B. Unit, Lafayette, La. William S. Wiedorn, lands. archt. — BTS — Apr., pp. 158-160.

Kuhn, Charles F., assoc. archt. See Reynolds, Smith and Hills, archts. and engr.

L

Lafayette Charity Hospital T.B. Unit, Lafayette, La. Richard Koch, archt. William S. Wiedorn, lands. archt. — BTS — Apr., pp. 158-160.

Land Preparation. See "Preparing the Land for Building: Drainage. Part I: Surface Drainage" — AE — May, pp. 156-161.

Lay, Charles Downing and Assoc., lands. archts. See O'Connor, R. B. and W. H. Kilham, Jr., archts.

Lendrum, James T. Article: "Modular Coordination in Frame Houses" — AE — May, pp. 153-155.

Lescage, William. Article: "N. Y. State Building Code Commission: Aims and Accomplishments" — AE — Jun., pp. 184-187.

Lighting. See "Characteristics of Downlighting" — AE — Feb., pp. 142-145, 160.

Lilienthal, Mr. and Mrs. Robert P., House, San Francisco. Worley K. Wong, archt., and John Carden Campbell. Eckbo-Royson & Williams, lands. archts. — Jun., pp. 168-171.

Lipshutz, Leon, assoc. archt. See Koch, Carl, Assoc., archts.

Lloyd, Alice Crocker, Residence Hall, University of Michigan, Ann Arbor, Mich.

Clair W. Ditchy, archt., Lynn W. Fry, superv. archt. — Apr., pp. 112-117.

Load Bearing Wall Construction. See article: "Partitions Function as Columns in Scheme for Apartment Buildings" — AE — Jan., pp. 134-139.

Locks. See Hardware.

Loeb, Schlossman & Bennett, archts. and plnrs. Park Forest, Ill. Planned community. Elbert Peets, consult. Kincaid & Hutchinson, city plnrs. and archts. — BTS — May, pp. 94-110.

Logan International Airport, East Boston, Mass. Thompson & Lichtner Co., Inc. and Coolidge, Shepley, Bulfinch and Abbott, assoc. engr. and archts. — BTS — Jan., pp. 118-125.

Los Angeles Country Road Dept. See Mill Creek Summit Maintenance Yard — May, pp. 149-152.

Lyndon, Maynard, archt. Elementary School, Vista Unified School District, Calif. — BTS — Jun., pp. 128-133.

Mc

McCandless, Stanley. Article: "Characteristics of Downlighting" — AE — Feb., pp. 142-145, 160.

McCarthy, Francis Joseph, archt. Mr. and Mrs. Clarence Bowman House, San Rafael, Calif. Thomas D. Church, lands. archt. — Feb., pp. 108-111.

M

MacNeil, Gordon, engr. See Kennedy & Smith, archts.

Macklin & Stinson, archts. and engr. Mineral Springs High and Elementary Schools, Forsyth County, N. C. — BTS — Jun., pp. 134-139.

Magney, Tusler & Setter, archts. and engr. Chemical Engineering Building, University of Minnesota. Roy Childs Jones, advs. archt. — May, pp. 126-131.

Maintenance Yard. See Mill Creek Summit Maintenance Yard — May, pp. 149-152.

Maloney, John W., and John H. Whitney, archts. Yakima, Wash., Twin Elementary Schools — BTS — Jun., pp. 140-145.

Marraccini, S. P., assoc. archt. See Stone and Mulloy, archts.

Massena & duPont, archts. Store for John Wanamaker, Wilmington, Del. — BTS — Mar., pp. 142-143.

Merrill, Simms & Roehrig, archts. Puumale Tuberculosis Hospital, Hilo, Hawaii — BTS — Apr., pp. 150-153.

Merz, Joseph A. and Raniero Corbelletti. Article: "Study for an Ideal Port Facility" — AE — Apr., pp. 167-170.

Michaels, Dr. and Mrs. Joseph J., House, Belmont, Mass. Carl Koch Assoc., archts. Leon Lipshutz, assoc. archt. — Jan., pp. 108-111.

Middleborough Housing Project, Middleborough, Mass. Kennedy & Smith, archts. Dan Kiley, lands. archt. Gordon MacNeil, engr. — BTS — May, pp. 120-122.

Mill Creek Summit Maintenance Yard. Los Angeles Country Road Dept. Richard J. Neutra, archt. — May, pp. 149-152.

Mills, Mr. and Mrs. Willard C., House, near Danville, Calif. Anshen & Allen, archts. — Feb., pp. 112-115.

Mineral Springs High and Elementary Schools, Forsyth County, N. C. Macklin & Stinson, archts. and engr. — BTS — Jun., pp. 134-139.

Mississippi State Sanatorium for Negroes, Sanatorium, Miss. R. W. Naef, archt.-engr. Biggs, Weir & Chandler, archts. and consult. engr. — BTS — Apr., pp. 142-145.

MOBILIZATION HOUSING. Building Types Study No. 174—May, pp. 93-125. "Mobilization Housing." Introduction to BTS—May, p. 93. "Modular Coordination in Frame Houses." Article by James T. Lendrum—AE—May, pp. 153-155. Modular Coordination: 6, 7, 8—AE—TSS—Feb., pp. 153, 155, 157; 9, 10, 11: Frame Houses—AE—TSS—May, pp. 177, 179, 181. Mullen, T. R. Part II of Welding article: "Prospects for Material and Cost Savings"—AE—Mar., pp. 144-146. Murlin, J. A. Article: "Steel Saved in Lightweight Building"—AE—Jun., pp. 188-190. Musick, G. Meredith, archt. Stapleton Airfield, Denver, Colo.—BTS—Jan., pp. 126-130.

N

Naef, R. W., archt.-engrs. Mississippi State Sanatorium for Negroes, Sanatorium, Miss. Biggs, Weir & Chandler, archts. and consult. engrs.—BTS—Apr., pp. 142-145. Navy District Public Works Officers. See "Construction Officials, Directory of Government." Nelson, George, archt. Vacation House, Quoque, N. Y.—Jun., pp. 162-167. Neutra, Richard J., archt. Mill Creek Summit Maintenance Yard. Los Angeles Country Road Dept.—May, pp. 149-152. Nursery Schools. See article: "The Preschool in Action," by Heinrich and Elisabeth Waechter—Feb., pp. 96-101, 194. See also Religious Educational Building, Pasadena, Calif.—Feb., pp. 102-105.

O

O'Connor, R. B. and W. H. Kilham, Jr., archts. Charles Downing Lay and Assoc., lands. archs. Wilton Junior High School, Wilton, Conn.—Apr., pp. 101-111. Office Buildings, Architects'. Offices of James A. Britton, Greenfield, Mass.—Mar., pp. 112-115; Offices of Jessen Jessen Millhouse & Greeven, Austin, Tex.—Mar., pp. 116-119. Office Buildings. Esso Office Building, Baton Rouge, La.—Jan., pp. 85-90. Olgyay and Olgyay, archts. Article: "Partitions Function as Columns in Scheme for Apartment Buildings," by Paul Weidlinger—AE—Jan., pp. 134-139.

P

Palley, Mr. and Mrs. George, House, Croton-on-Hudson, N. Y. Sanders & Malsin, archts.—May, pp. 140-143. "Panel Cooling Planned for Two Buildings." Article—AE—Tech. News—Mar., p. 146. Park Forest, Ill. Planned community. Loeb, Schlossman & Bennett, archts. and plnrs. Elbert Peets, consult. Kincaid & Hutchinson, city plnrs. and archts.—BTS—May, pp. 94-110. "Partitions Function as Columns in Scheme for Apartment Buildings." Article by Paul Weidlinger. Olgyay and Olgyay, archts.—AE—Jan., pp. 134-139. Peets, Elbert, consult. See Loeb, Schlossman & Bennett, archts. and plnrs. People's Savings Bank, Providence, R. I. Cram & Ferguson, archts.-engrs.—Apr., pp. 123-129. Perkins, James E., M.D. See Anderson, Robert J., M.D. Perkins & Will, archts.-engrs. Barrington Consolidated High School, Barrington, Ill.—BTS—Jun., pp. 146-150.

Pierce, S. S., Co. See "Two Stores for Boston, Mass."—BTS—Mar., pp. 139-141. Planning. See article: "The Factory and the Town," by Carl Feiss—BTS—May, pp. 111-115. See also Park Forest, Ill.—BTS—May, pp. 94-110.

Polevitzky, Igor B., archt. Golden Strand Hotel, Miami Beach, Fla. Frederick B. Stressau, lands. archt.—May, pp. 132-135.

"Port Facility, Study for an Ideal." Article re study made by Joseph A. Merz and Raneiro Corbelletti—AE—Apr., pp. 167-170.

"Preparing the Land for Building: Drainage. Part I: Surface Drainage." Article by J. L. Staunton—AE—May, pp. 156-161.

"Preschool in Action, The." Article by Heinrich and Elisabeth Waechter—Feb., pp. 96-101, 194.

Priory School Gymnasium Building, Portsmouth, R. I. Anderson & Beckwith and Harkness & Geddes, assoc. archts.—May, pp. 136-139.

Prokosch, Walther. Article: "Airport Design: Its Architectural Aspects"—BTS—Jan., pp. 112-117.

Public Buildings. See Detroit Civic Center—Jan., pp. 100-107.

Publishing house. See Caledonian Record Pub. Co., Inc.—Jun., pp. 172-174.

Puamale Tuberculosis Hospital, Hilo, Hawaii. Merrill, Simms & Roehrig, archts.—BTS—Apr., pp. 150-153.

Q

Queen's College General Science and Housecraft Unit, Bridgetown, Barbados, B. W. I. Ralph Crowe, archt.—Feb., pp. 106-107.

R

Ray, Jo, site plnr. See Britton, James A., archt.

Ramps for Stadium Traffic, Spiral. Stadium addition, University of Washington, Seattle, Wash.—AE—Feb., pp. 146-148.

Reed, Joseph H. See Haeger, Leonard G.

REGIONAL SHOPPING CENTERS. Building Types Study No. 172—Mar., pp. 120-143.

Regional Shopping Centers. See Shopping Centers.

Reid, Kenneth. Review of *Laboratory Design*, H. S. Coleman, ed.—Jun., p. 30.

Religious Educational Building. Neighborhood Church, Pasadena, Calif.—Feb., pp. 102-105.

Remodeling. See Sun Steel Co., Shop Building, Chicago, Ill.—BTS—Feb., pp. 140-141.

Reynolds, Smith and Hills, archts. and engrs. Southeast Florida Tuberculosis Sanatorium, Lantana, Fla. Charles F. Kuhn, assoc. archt.—BTS—Apr., pp. 146-149.

Richmond, Carleton R., Jr. See Bogner, Walter F., archt.

Road Camp for highway crews. See Mill Creek Summit Maintenance Yard.—May, pp. 149-152.

Roberts, Mr. and Mrs. Trevor, House, Blue Ridge, Wash. Young & Richardson, archts. and engrs.—Apr., pp. 130-134.

S

Saarinens, Saarinens & Assocs., consultants. Detroit Civic Center—Jan. pp. 100-107.

Sanatoriums. See TUBERCULOSIS HOSPITALS—BTS—Apr., pp. 135-160.

Sanders & Malsin, archts. Mr. and Mrs. George Palley House, Croton-on-Hudson, N. Y.—May, pp. 140-143.

Sanders, Walter. Review of *Catalog Design Progress*, by K. Lonberg-Holm and Ladislav Sutnar—Mar., pp. 32, 35.

San Mateo County Tuberculosis Hospital, Redwood City, Calif. Stone and Mulloy, archts. S. P. Marraccini, assoc. archt.—BTS—Apr., pp. 138-141.

Sawyer, Charles H. Review of *Museum Buildings*, by Laurence Vail Coleman—Feb., p. 28.

Schmidt, Garden & Erikson, archts. and Engrs. Veterans' Administration Research Hospital, Chicago, Ill.—Jun., pp. 151-157.

SCHOOLS AND SCHOOL PRACTICE. Building Types Study No. 175—Jun., pp. 117-150.

Schools. Barrington Consolidated High School, Barrington, Ill.—BTS—Jun., pp. 146-150; Brewer Elementary School (proposed), Brewer, Me.—BTS—Jun., pp. 118-119; Hillsborough School, Hillsborough Township, N. J.—AE—Jun., pp. 191-194; Kingston Elementary School, Kingston, Mass.—BTS—Jun., pp. 122-127; Mineral Springs High and Elementary Schools, Forsyth County, N. C.—BTS—Jun., pp. 134-139; Priory School Gymnasium, Portsmouth, R. I.—May, pp. 136-139; Queen's College General Science and Housecraft Unit, Bridgetown, Barbados, B. W. I.—Feb., pp. 106-107; Sunnyside School, Maricopa County, Ariz.—BTS—Jun., pp. 120-121; Vista Unified School District Elementary School, Calif.—BTS—Jun., pp. 128-133; Wilton Junior High School, Wilton, Conn.—Apr., pp. 101-111; Yakima, Wash., twin Elementary Schools—BTS—Jun., pp. 140-145.

Schools. See article: "Economics + Philosophy + Available Materials and Equipment + Design = Modern Schools"—BTS—Jun., pp. 118-121. See also "Heating System Lowers School Costs," Hillsborough School, Hillsborough Township, N. J.—AE—Jun., pp. 191-194. See also "The Preschool in Action," by Heinrich and Elisabeth Waechter—Feb., pp. 96-101, 194. See also "Schools and School Practice"—BTS—Jun., p. 117.

"Schools and School Practice." Article—BTS—Jun., p. 117.

"Selective Service, Architects, Engineers and." Editorial by Harold D. Hauf—Feb., p. 11.

Shaughnessy, Joseph B., assoc. archt. See Byrne, Barry, archt.

Shopping Centers. See **REGIONAL SHOPPING CENTERS**—BTS—Mar., pp. 120-143.

Shopping Centers. Shopping Center for the Hecht Co., Va.—BTS—Mar., pp. 137-138; S. S. Pierce Co., Boston, Mass.—BTS—Mar., pp. 139-141; R. H. Stearns, Boston, Mass.—BTS—Mar., pp. 139-141; Stonestown Shopping Center, San Francisco—BTS—Mar., pp. 132-136; John Wanamaker, Wilmington, Del.—BTS—Mar., pp. 142-143; Woodward & Lothrop, Chevy Chase, Md.—BTS—Mar., pp. 142-143.

"Shopping Centers, Regional." Article by Kenneth C. Welch—BTS—Mar., pp. 121-131.

Shop Building for Steel Plant, Remodeled. Sun Steel Co., Chicago, Ill.—BTS—Feb., pp. 140-141.

Sleeper, Harold R., archt. Broadway Savings Bank, New York City. Ackerman & Ramsey, assocs.—Apr. pp. 123-129.

Sliding Doors. See Hardware.

Smith and Williams, archts. Religious educational building, Neighborhood Church, Pasadena, Calif.—Feb., pp. 102-105.

Snedaker & Macdonald, archts. Central Branch, Continental Bank & Trust Co., Salt Lake City, Ut.—Apr., pp. 123-129.

Sobel, Walter H. and J. Steward Stein, archts. and engrs. Remodeled shop building for the Sun Steel Co., Chicago, Ill.—BTS—Feb., pp. 140-141.

Southeast Florida Tuberculosis Sanatorium, Lantana, Fla. Reynolds, Smith and Hills,

archs. and engrs. Charles F. Kuhn, assoc. archt. — BTS — Apr., pp. 146-149.
Spiral ramps. See Ramps for Stadium Traffic, Spiral.

Stadium. University of Washington Stadium Addition, Seattle, Wash. — AE — Feb., pp. 146-148.

Stapleton Airfield, Denver, Colo. G. Meredith Musick, archt. — BTS — Jan., pp. 126-130.

Starrett and Van Vleck, archts. Store for Woodward & Lothrop, Chevy Chase, Md. — BTS — Mar., pp. 142-143.

Statler Center, Los Angeles, Calif. Holabird & Root and Burgee, archts. and engrs. William Tabler, assoc. archt. — Mar., pp. 89-104.

"Statler Center, Engineering Aspects of" Article. — AE — Mar., pp. 147-150.

Staunton, J. L. Article: "Preparing the Land for Building: Drainage. Part I: Surface Drainage" — AE — May, pp. 156-161.

Stearns, R. H., Store, Boston, Mass. Walter Dorwin Teague, dsnr. Robert J. Harper and Carl R. Conrad, assoc. Edward A. Ashley, engr. — BTS — Mar., pp. 139-141.

"Steel Saved in Lightweight Building." Article by J. A. Murlin — AE — Jun., pp. 188-190.

Stoddard, George W., & Assocs., archts. Stadium addition, University of Washington, Seattle, Wash. John Paul Jones, superv. archt. — AE — Feb., pp. 146-148.

Stone and Mulloy, archts. San Mateo County Tuberculosis Hospital, Redwood City, Calif. S. P. Marraccini, assoc. archt. — BTS — Apr., pp. 138-141.

Stone & Pitts, archts. and engrs. Houston Coca Cola Bottling Co., Houston, Tex. — BTS — Feb., pp. 120-127.

Stonestown Shopping Center, San Francisco. Welton Becket & Assocs., archts. — BTS — Mar., pp. 132-136.

Stressau, Frederick B., lands. archt. See Polevitzky, Igor B., archt.

Strip Mill and Distribution Center. Detroit Steel Corp., Hamden, Conn. Leo F. Caproni & Assocs., archts. and engrs. — BTS — Feb., pp. 132-135.

Structural Steel. See "Welding Saves Structural Steel" — AE — Mar., pp. 144-146.

Sunday Schools. See Religious Educational Building, Neighborhood Church, Pasadena, Calif. — Feb., pp. 102-105.

Sunnyside School, Maricopa County, Ariz. Ralph Haver, archt. — BTS — Jun., pp. 120-121.

Sun Steel Co., Chicago, Ill. Remodeled Shop Building. Walter H. Sobel and J. Steward Stein, archts. and engrs. — BTS — Feb., pp. 140-141.

T

Tabler, William B., assoc. archt. See Holabird & Root and Burgee, archts.

Teague, Walter Dorwin, dsnr. S. S. Pierce Co. and R. H. Stearns, Stores, Boston, Mass. Robert J. Harper and Carl R. Conrad, assoc. Edward A. Ashley, engr. — BTS — Mar., pp. 139-141.

Textile Dye and Ink Plant. Interchemical Corp., Hawthorne, N. J. The H. K. Ferguson Co., engrs. — BTS — Feb., pp. 136-139.

Thompson & Lichtner Co., and Coolidge, Shepley, Bulfinch and Abbott, assoc. engrs. and archts. Logan International Airport, East Boston, Mass. — BTS — Jan., pp. 118-125.

TUBERCULOSIS HOSPITALS. Building Types Study No. 173 — Apr., pp. 135-160.

Tuberculosis Hospitals. East Tennessee Tuberculosis Hospital, Knoxville, Tenn. — BTS — Apr., pp. 154-157; Lafayette Charity Hospital, Lafayette, La. — BTS — Apr., pp. 158-160; Mississippi State Sanatorium for Negroes, Sanatorium, Miss. —

BTS — Apr., pp. 142-145; Puumale Tuberculosis Hospital, Hilo, Hawaii — BTS — April., pp. 150-153; San Mateo County Tuberculosis Hospital, Redwood City, Calif. — BTS — Apr., pp. 138-141; Southeast Florida Tuberculosis Sanatorium, Lantana, Fla. — BTS — Apr., pp. 146-149.

"Tuberculosis Hospitals, Construction and Planning of." Article by John W. Cronin, M.D. — BTS — Apr., p. 136.

"Tuberculosis Hospital Planning, Notes On." Article by Peter N. Jensen, archt. — BTS — Apr., pp. 137-138.

Tunnard, Christopher. Review of *China and Gardens of Europe*, by Oswald Sirén — Jan., pp. 28, 30.

U

University of Michigan. Alice Lloyd Crocker Residence Hall, Ann Arbor, Mich. — Apr., pp. 112-117.

University of Minnesota. Chemical Engineering Building — May, pp. 126-131.

University of Washington. Stadium addition, Seattle, Wash. — AE — Feb., pp. 146-148.

V

Vacation House, Quogue, N. Y. George Nelson, archt. — Jun., pp. 162-167.

Van Nuys, Jay C., archt. Hillsborough School, Hillsborough Township, N. J., in article, "Heating Lowers School Cost" — AE — Jun., pp. 191-194.

Varney, Edward L., Assocs., archts. and engrs. Yuma County Airport, Yuma County, Ariz. — BTS — Jan., pp. 130-133.

Venting. See Gas Appliances, Installation of: Venting — AE — TSS — Apr., pp. 175, 177, 179.

Vermont Electric Cooperative, Inc., Johnson, Vt. Whittier & Goodrich, archts. — Jun., pp. 175-177.

Veterans Administration Research Hospital, Chicago, Ill. Schmidt, Garden & Erikson, archts. and engrs. — Jun., pp. 151-157.

Veterans' Memorial Building. Detroit Civic Center, Detroit, Mich. Harley, Ellington & Day, archts. and engrs. — Jan. pp., 102-106.

Vista Unified School District Elementary School, Calif. Maynard Lyndon, archt. — BTS — Jun., pp. 128-133.

W

Waechter, Heinrich H. and Elisabeth. Article: "The Preschool in Action" — Feb., pp. 96-101, 194.

Wanamaker, John, Store, Wilmington, Del. Massena & duPont, archts. — BTS — Mar., pp. 142-143.

Weidlinger, Paul. Article: "Partitions Function As Columns in Scheme for Apartment Buildings." Olgyay and Olgyay, archts. — AE — Jan., pp. 134-139.

Welch, Kenneth C. Article: "Regional Shopping Centers" — BTS — Mar., pp. 121-131.

"Welding Saves Structural Steel. Part I: Case Histories. Part II (by T. R. Mullen): Prospects for Material and Cost Savings" — AE — Mar., pp. 144-146.

Whittier & Goodrich, archts. Caledonian Record Pub. Co., Inc., St. Johnsbury, Vt. — Jun., pp. 172-174; Vermont Electric Cooperative, Inc., Johnson, Vt. — Jun., pp. 175-177.

Whitney, John H., archt. See Maloney, John W., archt.

Wiedorn, William S., lands. archt. See Koch, Richard, archt.

Wilton Junior High School, Wilton, Conn. R. B. O'Connor and W. H. Kilham, Jr., archts. — Apr., pp. 101-111.

Wong, Worley K., archt., and John Carden Campbell. Hillside Apartments, Berkeley, Calif. — Jan., pp. 95-99; Mr. and Mrs. Robert P. Lilienthal House, San Francisco, Calif. Eckbo-Royston & Williams, lands. archts. — Jun., pp. 168-171.

Woodward & Lothrop, Store, Chevy Chase, Md. Starrett and Van Vleck, archts. — BTS — Mar., pp. 142-143.

Wurster, William W., archt. Article: "The Architectural Life" — Jan., pp. 91-94.

Y

Yakima, Wash. Twin Elementary Schools. John W. Maloney and John H. Whitney, archts. — BTS — Jun., pp. 140-145.

Young & Richardson, archts. and engrs. Mr. and Mrs. Trevor Roberts House, Blue Ridge, Wash. — Apr., pp. 130-134.

Yuma County Airport, Yuma County, Ariz. Edward L. Varney Assocs., archts. and engrs. — BTS — Jan., pp. 130-133.

BOOKS REVIEWED

ARCHITECTURAL INDEX FOR 1950, THE. By Ervin J. Bell — Apr., p. 32.

ARCHITECTURE OF THE SOUTHWEST. By Trent Sanford — Mar., p. 36.

CATALOG DESIGN PROGRESS. By K. Lonberg-Holm & Ladislav Sutnar — Mar., pp. 32, 35.

CHINA AND GARDENS OF EUROPE. By Oswald Sirén. Rev. by Christopher Tunnard — Jan., pp. 28, 30.

DWELLINGS OF COLONIAL AMERICA, THE. By Thomas Tileston Waterman — May, p. 32.

HEAT INSULATION. By Gordon B. Wilkes — Jan., p. 30.

KNOLL. Knoll Associates, Inc. — Feb., p. 28.

LABORATORY DESIGN. Ed. by H. S. Coleman. Rev. by Kenneth Reid — Jun., p. 30.

MUNCH, EDVARD. By Frederick B. Deknatel — Mar., pp. 36, 268.

MUSEUM BUILDINGS. By Laurence Vail Coleman. Rev. by Charles H. Sawyer — Feb., p. 28.

NEW SCHOOL, THE. By Albert Roth. Rev. by N. L. Engelhardt, Sr. — Jun., pp. 30, 32, 290.

NORWEGIAN ARCHITECTURE. Compiled by Alnaes, Eliassen, Lund, Pedersen, Platou. Rev. by Fello Atkinson — May, pp. 32, 35, 36.

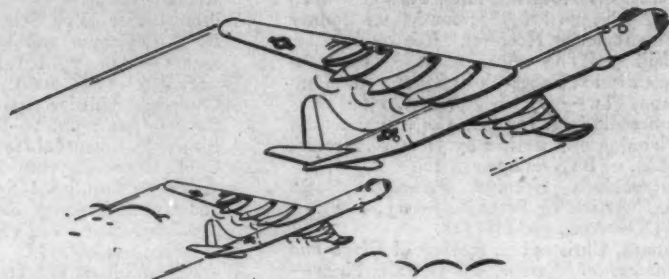
PARLIAMENT HOUSE. By Maurice Hastings. Rev. by Keith De Folo — Jun., pp. 290, 292.

PLANT LAYOUT AND MATERIALS HANDLING. By James M. Apple — Feb., p. 28.

SALEM INTERIORS. By Samuel Chamberlain — Apr., p. 32.

SCHOOLS FOR THE VERY YOUNG. By Heinrich and Elisabeth Waechter. Rev. by Arnold Gesell, M.D. — Apr., p. 30.

WORK OF OSCAR NIEMEYER, THE. By Stamo Papadaki — Mar., p. 35.



THE SKY IS NO LIMIT TO THE USES OF ALUMINUM

From thinnest foil to jet-plane armor, aluminum is the most versatile of metals. It has become the architect's most modern material. No other metal within economic reach can be rolled so fine, extruded so easily in endless shapes, drawn, forged, cast. No other metal offers *at low cost* aluminum's freedom from rust and resistance to corrosion. No other metal combines light weight with a strength which can be made equal to mild steel. And no other low-cost metal can equal aluminum's radiant heat reflectivity.

From this extraordinary range of characteristics stems the scope of aluminum's uses. Aluminum roofing, siding, gutters and downspouts, insulation and vapor barrier, windows, screens... these have become staple building materials. Decoratively as well as functionally, the field broadens... aluminum spandrels, bas-reliefs, spires, railings, doors, moldings. And there is an increasing trend to aluminum structurals.

Reynolds, leader in aluminum building products, offers literature on technical engineering subjects such as "Aluminum Extrusions" and "Aluminum Structural," as well as on the specific products shown. Please address inquiries to **Reynolds Metals Company**, Building Products Division, 2038 South Ninth St., Louisville 1, Kentucky.



Aluminum is required for planes and other military needs. Expansion is under way. Keep checking your sources for products shown... also for Aluminum Nails, Flashing.



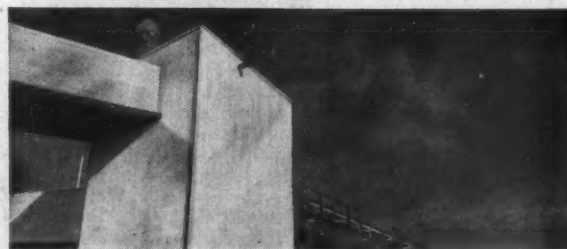
Reynolds Aluminum Windows (residential casement, double-hung, fixed, picture) are outstanding in finish and design. Military needs affect production but aluminum capacity is expanding. Check your supplier.



Reynolds Lifetime Aluminum Gutters prove aluminum's economy... half the cost of other rustproof materials. Ogee and Half-Round, smooth or stippled. Military needs for aluminum may affect supply.



Reynolds Aluminum Reflective Insulation—foil on one side (Type C) or both sides (Type B) of kraft paper. A preferred insulation and vapor barrier. 25", 33" and 36" widths, in boxed rolls of 250 square feet.



Reynolds Lifetime Aluminum Industrial Corrugated on coal conveyor system of Worcester County Electric Co., New England Electric System. .032" thick. Light weight with great strength. Low cost, lowest maintenance. DO-rated orders get priority handling.

REYNOLDS ALUMINUM

fin-
ent,
ure)
nish
eds
alu-
ind-
or.

umi-
umi-
the
ma-
alf-
led.
umi-
.

flec-
one
ides
r. A
and
and
rolls



con-
land
Low
ling.



ORD
R. GEN.